STACKS

NLM

Missouri Medicine

Vol. 81, No. 1 (ISSN 0026-6620) January, 1984

The Mission
of
Ellis Fischel
State
Cancer Center

Surgical
Rehabilitation
of the
Alaryngeal
Patient

Oral/Dental
Management
of the
Neck Radiation
Therapy Patient

Ellis Fischel
State
Cancer Center
*Special
Issue*

Cancer
of the
Colon and Rectum

Preliminary Program

1984
MSMA
ANNUAL
CONVENTION

March 29-April 1, 1984
Marriott's Pavilion Hotel
St. Louis

Missouri State Medical Association

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COLLEGE OF PHYSIC
OF PHILADELPHIA
FEB 8 - 1984

is one million dollars enough?

Does a one million dollar limit to your professional liability coverage protect you enough? Consider that in the last few years Missouri malpractice claimants have received awards or settlements as large as $4,000,000. And $6,900,000. And $7,300,000. The facts every physician must recognize are that multi-million dollar judgements are no longer rare, and a one million dollar limit may no longer be enough.

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PROGRESS NOTES

missouri state medical association

JANUARY 1984

MD Incomes Rise Slightly

Physician incomes were up slightly, patient visits were down, and the hours per week that physicians spent taking care of patients remained virtually the same for the first half of 1983, according to a preliminary report from the Socioeconomic Monitoring System of the AMA Center for Health Policy Research.

Average quarterly net income for the first half of the year was just 5% higher than a year earlier. Patient visits decreased 5% compared with the same period 12 months earlier. The decrease was the result of a decline in visits both in the office (−4.1%) and on hospital rounds (−3%). Although office hours showed a slight decline of −0.7% and hours on hospital rounds revealed a modest increase of 2.1%, the total patient care hours nevertheless was unchanged.

Fees for office visits rose approximately 8% during the past year, while the price for a follow-up hospital visit increased by 10.3%.

Medicaid Drug Changes Proposed

A proposed amendment to the Medicaid Drug Formulary has been published by the Division of Family Services in the Dec. 1, 1983 *Missouri Register*. The amendment would add seven items to the formulary and replace five trade names with their generic names.

A copy of the proposed rule may be obtained from the Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

Council Meeting

MSMA Dues Increase Sought

A proposed $25 membership dues increase was approved by the MSMA Council during its December 17 meeting in Columbia. The increase will be brought before the full MSMA House of Delegates for a vote during the 126th Annual Convention, March 29 - April 1 in St. Louis. If approved, the dues increase will become effective Jan. 1, 1985.

Currently, the Missouri State Medical Association has the lowest membership dues in the nation. The increase would place the MSMA's dues in a tie for the 49th lowest slot.

The council also approved a resolution allowing the Association's investment account, held by the Mercantile Bank of St. Louis, to be used to collateralize the Association's debt to MOMEDICO.

After lengthy discussion, Council members approved submitting a resolution to the MSMA House of Delegates charging the MSMA to investigate the need for establishing a statewide hospital medical staff section. If approved, the resolution would also require the MSMA to study alternative methods of implementing this action, as well as the cost involved in such an effort.

It was also reported during the meeting that the Association's preliminary 1983 audit had been completed. There were 6,427 members of MSMA in 1983, a net increase of 231 over 1982. The majority of the gain was an increase in student members; 141 of the new members in 1983 were students and 90 were physicians. In addition, approximately 375 new student members will be added to the

See "MSMA Objectives" page 3

March 29 - April 1

17 Scientific Sessions To Be Offered at MSMA Convention

The 126th Annual Convention of the Missouri State Medical Association is quickly approaching and it's time to be making arrangements to attend.

Preliminary programs of the Convention activities, scientific sessions and highlights will be mailed to each MSMA member in approximately two weeks. Accompanying the programs will be reservation forms for the St. Louis Marriott Pavilion Hotel, where the Convention is to be held March 29 - April 1.

All MSMA members are encouraged to attend and participate in the open Reference Committee hearings which will be held at the close of the first House of Delegates, Thursday, March 29.

The Annual Convention provides an excellent opportunity to meet with fellow physicians and to continue one's medical education. The three-day scientific program offers 17 sessions approved for Category I Continuing Medical Education by the Missouri State Medical Association. (These sessions are also acceptable for Prescribed and Elective hours by the American Academy of Family Physicians.) The scientific programs begin on Friday, March 30, and continue through Sunday, April 1.

All spouses of MSMA members are invited to participate in the MSMA Auxiliary programs during the Annual Convention.

Bill Expands LPN Duties

Two bills of interest to medicine were passed during the Special Session of the Missouri General Assembly which adjourned in December.

Adopted was a bill to permit Licensed Practical Nurses to administer certain intravenous fluids. Regulations implementing the law are expected to be published soon by the Board of Nursing.

Also passed was a bill authorizing Missouri to join the Midwest Low-Level Radioactive Waste Compact. An amendment was added to the bill which would require the state to withdraw from the Compact if Missouri is selected as the host state. This provision will have to be presented to other Compact members for approval.

JCAH Approves Final Revisions

The Joint Council on Accreditation of Hospitals, (JCAH), approved final revisions in the Medical Staff Chapter of the Accreditation Manual for Hospitals, which included an amendment proposed by the AMA commissioners. The amendment, which incorporated language consistent with Substitute Resolution 45 adopted by the AMA House of Delegates at the 1983 Interim Meeting in December, was inserted as follows:

"Individuals granted the privilege to admit patients to inpatient services are members of the medical staff. *Individuals are granted the privilege to admit patients to inpatient services in accordance with state law and criteria for standards of medical care established by the individual medical staff.* When nonphysician members of the medical staff are granted privileges to admit such patients, provision is made for prompt medical evaluation by a qualified physician for all such patients. This requirement for prompt medical evaluation by a qualified physician does not apply to qualified oral surgeons who have been granted the clinical privileges to perform a history and physical examination."

The JCAH Board of Commissioners also approved implementation of the new medical staff standards, effective July 1, 1984, but with a delay in their impact on accreditation decisions until Jan. 1, 1985.

Medicine & Politics

Legislature To Consider Malpractice Legislation

Four bills dealing with medical professional liability insurance are among the many important measures to be considered by the 1984 Missouri General Assembly.

More than 150 medically-related bills annually are introduced by state legislators. The 1984 Session began January 4.

The four bills dealing with professional liability (malpractice) insurance are:

1. *Periodic Payments,* which would allow the court to set a schedule of payments to a successful claimant rather than requiring a lump sum payment;
2. *Cap on Awards,* which would set a $250,000 cap on the amount recoverable for noneconomic losses;
3. *Mandatory Collateral Sources,* which would reduce the amount of judgements by subtracting benefits the claimant receives from other sources; and
4. *Contingent Fee Schedule,* which would limit attorney fees to a certain percentage of the award.

Some of the other bills pre-introduced in December are:

SB 414, which would place in state statutes standards of care required for all handicapped children. The bill is in response to the "Baby Jane Doe" controversy;

SB 417, which would permit coroners to remove eye tissue for transplant unless the deceased's family objected;

SB 492, which would strengthen the state's Certificate-of-Need laws; and

HB 921, which would permit the registration of physician assistants.

Other issues which could surface include:

- Mandating informed consent on alternative treatments for breast cancer;
- Efforts to gain legal recognition for nurse midwives;
- Attempts by several allied health groups to gain or expand licensure; and
- A move to permit non-physicians to practice acupuncture.

As in the past, the MSMA encourages those physicians who are interested in the outcome of these important issues to become Legislative "Key Contacts." These "Contacts" are furnished with weekly reports updating them on current legislative happenings. In turn, "Contacts" agree to relate medicine's views to their individual legislators on key measures.

To become a "Key Contact," write MSMA Headquarters, P.O. Box 1028, Jefferson City, MO 65102.

Insurance

MOMEDICO Expands Services

Missouri Medical Insurance Company (MOMEDICO), the only professional liability insurance company formed and sponsored by the MSMA, continues to expand in the services and products it offers to all Missouri physicians. Field Service Representatives are now available to meet with physicians to discuss their insurance needs, as well as to personally work with them on any claims and/or lawsuits filed.

MOMEDICO has recognized that some physicians prefer claims-made coverage over occurrence coverage, so MOMEDICO now offers both types of policies. Physicians can choose between occurrence and claims-made coverage, both high quality policies with advantages of their own, and both offering the consent to settle clause.

In addition, excess limits liability insurance, which provides added limits above the physician's primary coverage, is offered by MOMEDICO on an agency basis through the Fireman's Fund. MOMEDICO's current primary coverage is available with limits up to $2 million/$3 million, but physicians whose high-risk practices may place them with the chance of a judgement coming in over their limits may desire the excess policy. MOMEDICO insureds must carry primary limits of $2 million/$3 million in order to be eligible for this program, and physicians insured with other professional liability insurance companies must carry at least $1 million/$1 million limits in order to be eligible.

Peer Review

MSMA Continues Effort To Obtain PRO Contract

Even without further guidelines from the Health Care Financing Administration, the Missouri Patient Care Review Foundation continues to develop its proposal to become the Peer Review Organization for Missouri. Regulations for area designations and the Request for Proposals were expected during November, but have not yet been released.

The Missouri Patient Care Review Foundation is a joint effort by the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons to become the Peer Review Organization for the state.

During its December 17 meeting, the Foundation Board of Directors took the following actions:

- received a financial report showing $14,000 income and $5,864.47 expenses for a balance of $8,135.53;
- received a report on the recent local society survey regarding performance of peer review in their local area. Of the twenty responses received, three indicated a desire and capability to become a subcontractor for peer review in their area while the remaining 17 indicated they do not have this desire and would support Foundation subcontracting with the local PSRO;
- endorsed immediate activation of the PSRO Liaison Committee to meet and discuss differences between the two groups regarding a subcontracting relationship;
- gave tentative approval to a job description and advertisement for an executive vice-president, and
- requested names of physicians from across the state wishing to be appointed to the Foundation's various committees.

The Board will meet again on February 4 in Columbia. Physicians wishing to serve on any committee or requesting further information should contact the MSMA office.

Continued from page 1

MSMA's Objectives Defined

membership rolls in 1984.

Membership in the Missouri Medical Political Action Committee (MMPAC) also increased in 1983 with 1,581 regular members and 161 sustaining members, a gain of 175 members over the previous year.

Dr. William Bradshaw, chairman of the MSMA Commission on Continuing Medical Education, reported the Commission had met and approved five organizations for full accreditation for a four-year period (St. John's Medical Center, Joplin; Faith Hospital, Creve Coeur; Greene County Medical Society, Springfield; DePaul Community Health Center, Bridgeton; and St. Joseph Health Center, St. Charles) and had approved one hospital (St. Joseph Hospital of Kirkwood) for a three-year period.

A report of the Missouri State Medical Foundation (MSMF) revealed that since the establishment of the MSMF in 1960 Missouri physicians have contributed more than $1,812,110 towards 2,186 loans to 917 deserving medical students.

In September 1983, the MSMF Loan Committee approved a loan package of $222,000, a 12% increase over fiscal year 1982.

Dr. Walter German, chairman of the Council, accepted the resignation of Councilor Donald McIntosh. Dr. McIntosh is moving from his previous home and councilor district in Kansas City to begin work in Springfield.

In other actions, the Council approved supporting Dr. George Thoma's bid for re-election to the AMA Council on Medical Education. The Council also approved supporting Dr. Melvin Kasten's effort to seek appointment to the AMPAC Board of Directors.

The Council meeting concluded with a report of the meeting between the MSMA Planning Committee and the MSMA Council. The meeting was held to evaluate the Association's progress to date in meeting its objectives and to establish definite objectives for 1984. The following objectives, listed in priority order, were adopted:

1. Membership
2. Insuring Care for Patients
3. Education of Public and Physicians
4. Evaluate Effects of DRGs
5. Hospital Medical Staff Section
6. Physician Placement

Malpractice Claims Double Since 1978

Average incidence of malpractice claims during the past five years has more than doubled compared with the period before 1978, according to a report of the Socioeconomic Monitoring System of the AMA Center for Health Policy Research.

The number of annual claims per 100 physicians was 3.3 before 1978, jumping to eight each year since 1978. The survey found that physicians incur other costs in addition to those associated with liability insurance premiums. Of those physicians with claims filed against them within the past five years, 12.5% hired attorneys to augment the legal counsel that was provided by their insurance companies.

The most common physician responses to the increasing risks of malpractice claims have been to keep more detailed patient records (57%), to refer more patients to other physicians (45%), and to prescribe additional diagnostic tests (41%).

★ Tip of ★ the Month

This month's tip comes from Ruth P. Schultz, secretary for the Respiratory Care Physicians of Greater Lynn, Massachusetts.

"We use peel-off, pressure-sensitive, ¾-inch dots to color-code our third-party receivables. The dots are foled over the tops of the ledger cards, in plain sight. Medicare has one color, Blue Cross/Blue Shield another, a different color for Workmens' Comp, and so on.

"When we post our Medicare payment, it's easier to spot those Medicare balances by color as we sort through alphabetized accounts receivable cards. Same for Blue Cross/Blue Shield and all the rest of them. After the third-party has paid, the colored dot can be easily removed.

"When a co-insurance payment is still open against a certain date of service, we place a small stick-on tab along the side of the card. This way, as soon as the primary insurance check comes in, the co-insurance bill can go out."

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Counties Improve Membership Efforts

County medical societies have improved their membership recruitment programs significantly since 1979, but their retention programs have not kept pace, according to a survey conducted by the AMA Division of Membership.

Active, new member recruitment programs have grown steadily. In 1979, 35% of the county societies actively recruited new members. That proportion increased to 45% in 1980 and to 55% in 1982.

Membership retention programs also increased, but not as much. Figures for 1979 are not available. In 1980, 24% of the county societies had special retention programs such as follow-up recruiting of physicians who did not renew their memberships. By 1982, the proportion had increased to 39%.

Dividends Offered for Workers' Comp

Have you ever wished you had your own insurance company? Physicians have just that, in effect, when they participate in a dividend program for Workers' Compensation insurance approved by the Missouri State Medical Association.

Under this recently approved program, policyholders participate in whatever dividends are earned in their business class. The best dividends are earned when injury claims are kept to a minimum.

The highest returns under this service are achieved by maintaining careful hiring procedures and a safe operation. Special accident prevention counseling is offered without charge, and safety experts provide specific suggestions for earning a good safety record. The success of these efforts is measured in each year's dividends for policyholders.

Each participant is issued his own standard Workers' Compensation policy and claims are handled by local representatives. Dividends are based on the cost of claims paid for participating doctors.

The program is underwritten by Casualty Reciprocal Exchange, a member of the Dodson Insurance Groups, 92nd St. and State Line, Kansas City, Missouri 64114, 816-361-3400.

Practice Management

Two-Day Workshops Offer Aid to New Practitioners

You already know the questions:

- How much space do I need for my office?
- What is the best bookkeeping system for my practice?
- How can I build my practice?
- What is it going to cost me to get started?
- Is it better to be solo, a partnership or part of a group?

Now get the answers.

MSMA members will have two opportunities in 1984 to participate in the highly successful two-day management workshop, "Establishing Yourself in Medical Practice."

The workshops are specifically designed for physicians entering the practice of medicine: residents, physicians leaving the military, and prepaid groups.

The program is divided into seven essential subject areas:

1. *Personnel* — How to recruit and select the best personnel; training tips that improve performance; policies and rules for your office; and more.

2. *Patient Flow* — Telephone techniques for better patient service; appointment scheduling systems that are effective; office design and layout for your practice; and more.

3. *Financing Your Practice and Leasing Office Space* — Dealing with banks and bankers; financing your equipment, improvements, etc.; how to evaluate your office location; and more.

4. *Medical Records* — Alphabetical versus numeric filing; what type of file cabinets should you have; where to locate your files for greatest efficiency; and more.

5. *Practice Setting and Practice-Building Techniques* — Choosing a lawyer and accountant; professional and economic prospects of your community; effective methods to build your practice; and more.

6. *Economic and Legal Aspects of Practice* — What to negotiate for in a partnership or group practice; what to include in partnership or association agreements; advantages and disadvantages of solo practice, partnerships and groups; and more.

7. *Financial Management Techniques* — How to most effectively and inexpensively bill patients; collection techniques that work and improve patient communications; dealing with patients and third party insurance carriers; and more.

The afternoon session on the second day of each workshop will focus on professional liability issues, a critical and sensitive area for all physicians.

The first of the two workshops will be held April 10-11 at the Hilton Plaza Inn, Kansas City. The second is scheduled for April 12-13 at the Kings Inn, St. Louis.

For more information on the workshops, contact the MSMA office, Box 1028, Jefferson City 65102, 314-636-5151. Each workshop is limited to 30 enrollees to ensure maximum participation. Call or write today for a brochure and registration form.

Rule Changes

Drugs Added to Schedule IV

The following category of drugs has been added to the Schedule IV list of drugs, effective Dec. 11, 1983. This final rule change was published in the Dec. 1, 1983 *Missouri Register* by the Bureau of Narcotics and Dangerous Drugs.

Narcotic Drugs Containing Nonnarcotic Active Medicinal Ingredients. Any compound, mixture, or preparation containing any of the following limited quantities of narcotic drugs or salts thereof, which shall include one or more nonnarcotic active medicinal ingredients in sufficient proportion to confer upon the compound, mixture or preparation valuable medicinal qualities other than those possessed by the narcotic drug alone:

1. Not more than 200 milligrams of codeine per one million milliliters or per 100 grams;
2. Not more than 100 milligrams of dihydrocodeine per 100 milliliters or per 100 grams; or
3. Not more than 100 milligrams of ethylmorphine per 100 milliliters or per 100 grams.

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References should be cited in numerical order in the text and arranged at the end of the article in the same order in which they are cited. The reference should give name of author, title of article, name of periodical, volume number, initial page number and year. Authors are responsible for reference accuracy.

Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet.

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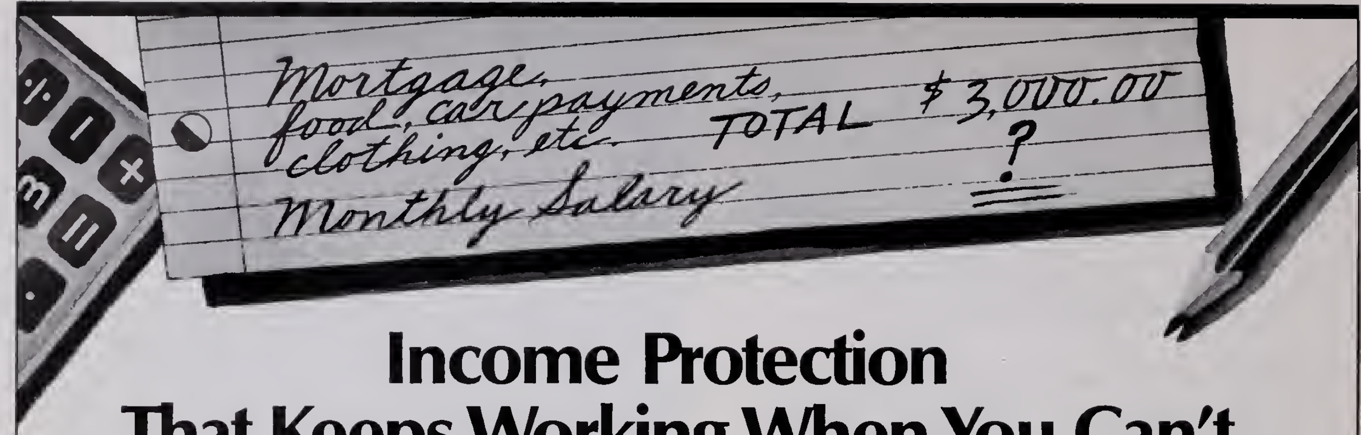

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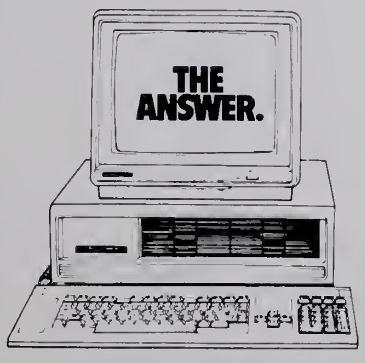

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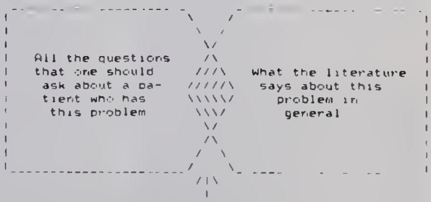
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References:

1. Stone PH, Turi ZG Muller JE Efficacy of nifedipine therapy for retractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Mutter J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm Experience in 127 patients *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation 2) angina or coronary artery spasm provoked by ergonovine or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed e g where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina but available information is not sufficient to predict with confidence the effects of concurrent treatment especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: Excessive Hypotension: Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl in other surgical procedures or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated the physician should be aware of these potential problems and if the patient's condition permits sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure. Rarely patients usually receiving a beta blocker have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General Hypotension**. Because PROCARDIA decreases peripheral vascular resistance careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema typically associated with arterial vasodilation and not due to left ventricular dysfunction occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels it is recommended that digoxin levels be monitored when initiating adjusting and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats embryotoxicity in rats mice and rabbits and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness peripheral edema nausea, weakness, headache and flushing each occurring in about 10% of patients transient hypotension in about 5% palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps nervousness dyspnea nasal and chest congestion, diarrhea constipation inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision difficulties in balance dermatitis pruritus urticaria fever, sweating chills and sexual difficulties Very rarely introduction of PROCARDIA therapy was associated with an increase in anginal pain possibly due to associated hypotension

In addition more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible however that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare mild to moderate transient elevations of enzymes such as alkaline phosphatase CPK LDH SGOT and SGPT have been noted and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis possibly due to PROCARDIA therapy has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66) 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59 to 77 F (15 to 25 C) in the manufacturer's original container

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"I can do things that I couldn't do for 3 yrs. including joining the human race again."

Quotes from an unsolicited letter received by Pfizer from an angina patient.
While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] *as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) *Capsules 10 mg*

Please see PROCARDIA *brief summary on adjoining page*

[*] Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

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J-4044 January 1984

Editor's Corner

Editorial

It's now 1984 AD, which is the current year by old-fashioned reckoning. According to some high tech-type philosophers, however, it is now more importantly the year AR 2 — the second year After the Robot has been engineered to the place that it will from now on be an increasing part of our lives. These pieces of electronic wizardry, both stationary and mobile and already enjoying well publicized success in Japanese industry, are being formulated for all sorts of home and business use. Various mundane jobs in our homes, hospitals and offices will undoubtedly become robot functions; one more thought to keep in mind as we plan our futures. They laughed at the automobile in the 1890s and at airplanes in Wilbur's and Orville's time. We'd better hurry and laugh at robots before it's too late.

* * *

Nobody foresees any sudden new trends in medicine during 1984; most of our thoughts along such lines are centered on DRGs and keeping up with all that the newer subspecialists have to tell us. A point has been made, however, that despite the FDA, many new and powerful medicines are becoming available, and there is increasing concern as to their proper administration. A few decades ago it probably didn't matter too much whether a patient took his pills or not — their efficacy was questionable. Now, medicines from beta and calcium blockers to alkylating agents are powerful drugs, and patient compliance with utilizing such medicines may be critical. Once-a-day type ingestion forms of treatment are being developed in pharmacology research centers so that not only the medicines we use, but how we use them, are undergoing change. Operative procedures are already being adapted more to outpatient settings. One further step and we'll be back to kitchen table surgery.

* * *

More and more talk is being heard concerning handling the oncoming physician surplus — and talk always has to precede action. Now some action is occurring; one or two states are now decreasing the size of next year's admission classes to medical school. The same approach has been suggested for Missouri, but it ran into political problems last year. The changing personnel needs in medicine are also seen in the business world. With computerized equipment, including the often-maligned robot, doing more and more, there is actually forecast to be less of a need in the future for highly skilled labor — one "high tech" expert can keep a room full of computers at work. On the other hand, secretaries, basic maintenance workers and service personnel will be in increased demand. Our sons and daughters may have to be taught to become more familiar with brooms and typewriters. It looks like we are going to have to learn to talk politely to the robots — they may well come equipped with built-in emotional systems for all we know. Time passes — it's now less than 16 years until the 21st Century.

JORDAN W. BURKEY, M.D.
Springfield

—1984 Update—

Information About Ellis Fischel State Cancer Center

(Left to right) Cancer Research Center J. M. "Tom" Allton Building, dedicated in 1975; Cancer Research Center A. P. Green Building, dedicated in 1968; Ellis Fischel State Cancer Center, opened in 1940; new wing on the right of the building, dedicated in 1976.

Where is it located?	115 Business Loop 70 West Columbia, MO 65201
What is the telephone number?	(314) 875-2100
Who may receive treatment?	Any Missourian (indigent or nonindigent) and nonindigent patients from other states who have been properly referred to EFSCC because they have or may have cancer.
Who may make referrals?	Any physician or dentist.
Who takes referral calls?	Narinder Kapoor, M.D., Clinic Director, or any senior staff physician.
During what hours should referrals be made?	At any time.
What information is needed?	Patient's name, address and telephone number in all cases.
How are second and third party payments handled?	EFSCC bills Medicaid, Medicare and insurance companies directly.
What is a cancer center?	A specialty hospital dedicated to cancer treatment, care, research and education.

Call 1-800-392-2545 (Toll Free)

- Physicians and dentists may call the above toll-free number to make patient referrals or to consult with the EFSCC staff.
- The general public may call this toll-free number to hear tapes about cancer or to receive literature about cancer.
- Calls to the toll-free number should be made during work-hours on week days.

Volume 81, Number 1 — January, 1984

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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The Mission of The Ellis Fischel State Cancer Center

By
RONALD G. VINCENT, M.D.
Director

When a disease is prevalent and its treatment particularly complex, medicine has sought to marshall its resources and orchestrate their use toward the solution of the problem. This was the rationale for building the tuberculosis hospital of the past and is now the supporting logic for the development of burn centers, coronary care units, intensive care units and neonatal units.

Cancer is one of the most complex puzzles that medicine has ever been called upon to solve and will require the best we have to offer in terms of multidisciplinary skills, equipment and research capacity. In every age, there are people of vision with sufficient courage to act upon their beliefs. In Missouri, we are fortunate to have such leaders to both pioneer and foster efforts in the control of cancer.

The Ellis Fischel State Cancer Hospital, dedicated on April 26, 1940, became the first cancer hospital west of the Mississippi and the second such institute in the United States. From that time until the present, Ellis Fischel has attracted many scientists and physicians of national and international renown. Research was accomplished, treatments were devised and books were written that are still standard references in the treatment and diagnosis of malignant disease.

In 1981, Ellis Fischel State Cancer Hospital underwent a major program review conducted by a panel convened by Gov. Christopher S. Bond. The panel's conclusions emphasized Ellis Fischel's potential to become a cancer center with the proper state financial support and enabling legislation.

Sen. Roger B. Wilson of Columbia introduced subsequent legislation signed by Gov. Bond on April 7, 1981. This legislation changed the name to "Ellis Fischel State Cancer Center" (EFSCC) and defined the responsibility of the Cancer Commission as the governing body.

Governor Bond appointed the following seven Cancer Commission members:

Joe D. Holt, Fulton
Henry O. Johnston, St. Louis
F. William Kasmann, Columbia
Margretta Forrester, St. Louis
Larry Dixon, Springfield
Herbert Kohn, Kansas City
Burleigh Arnold, Jefferson City

The Ellis Fischel State Cancer Center maintains 113 patient beds and is committed to serving as a comprehensive cancer center for the specialized treatment and care of cancer patients through a multidisciplinary approach. The center fosters basic and clinical research into the causes, prevention, detection and treatment of cancer and allied diseases. The center promotes the education and training of clinical and scientific health care professionals and provides information and programs essential to public enlightenment on matters of cancer prevention and control.

The center's purpose is to become a reference point where all physicians of the state should feel free to use resources in designing and implementing their treatment protocols. We look upon the center as a place where all health care professionals may come to discuss, review and propose new and better methods for dealing with the complexities of treating patients with malignant disease.

SUPPORT SERVICES

During the past few months, a number of programs have been instituted at Ellis Fischel that will be support services for cancer patients and their families.

The fifth floor of the hospital has been refurbished and equipped as a guest center and maxillofacial prosthetics clinic. The Office of Program Development also is located on the fifth floor. The guest center includes a patient library, enlarged recreational facilities, a patient beauty/barber shop and a gift shop. Of particular importance in these new services are rooms that have been prepared to be occupied by patients and their families.

Many patients come to Ellis Fischel from great distances, yet are treated as outpatients, particularly if they are receiving radiation therapy. Radiation therapy patients frequently do not need acute nursing care but are capable of caring for themselves under minimal supervision. Often a member of the patient's family can stay with the patient to attend to most of the patient's needs. When these particular rooms are not used for ambulatory patients, they are made available at modest charges to the families of patients who are admitted to acute care beds.

This flexible use of resources allows Ellis Fischel to give all patients the best possible care at considerable reduction in costs to all concerned. Simultaneously, programs are being developed in volunteer recruitment and in the training of volunteers to support patient care.

Implementation of our Cancer Information Service has progressed significantly in several areas. Presently, we offer a toll-free number with two long distance lines (800-392-2545) and one local number for cancer patients and the general public to call for information about cancer and the cancer center. Within the year, we anticipate having audio tapes on at least 50 cancer-related topics that will be available on request. If people have questions about topics that are not included on the tapes, callers will be connected with appropriate hospital personnel. Updating current tapes and developing new ones will be a continuous process.

In addition, the toll-free telephone system will enable physicians, dentists and other health care professionals to readily call for consultations with the Ellis Fischel staff. Physicians and dentists also may use the toll-free line for patient referrals.

The SHARE program is another outstanding achievement by our staff in meeting the needs of the cancer patients and their families. The primary goal of SHARE is to improve the quality of life for persons with breast cancer by providing a mechanism for patients to meet and exchange common feelings, experiences and concerns.

"I Can Cope" is an American Cancer Society-sponsored program that has been held at Ellis Fischel State Cancer Center since 1980. Through this six-to-eight-session program, patients and their family members learn about the disease process and its treatment as well as ways of dealing with daily health problems. They also are provided with information on community resources.

The center has completed the computerized conversion of its business services and the medical staff has increased its capacities in medical oncology, nuclear medicine and cardiology; further and future refinements are in the planning stages.

Although this report deals primarily with support services, we should announce that six new physicians have joined the staff since November, 1982. The Nursing Department has added 32 RNs, nine LPNs and nine nursing assistants to its staff.

We welcome any additional thoughts or ideas to help in our planning to make EFSCC an outstanding cancer center that provides the very best medical education and research services.

We look forward to exciting challenges ahead as we seek to overcome the obstacles that stand between us and the control and cure of malignant disease.

Reprints: Ronald G. Vincent, M.D., Director
Ellis Fischel State Cancer Center
115 Business Loop 70 West
Columbia, MO 65201

T. HEWITT McELROY, D.D.S.,*and*
OSCAR N. GUERRA, D.D.S., M.S.P.H., *Columbia*

Oral/Dental Management of the Head and Neck Radiation Therapy Patient

In the multidisciplinary management of primary tumors, metastases and disseminated nonsolid neoplasms involving the head and neck and regional lymphatics, radiation therapy plays a vital role in cure, prophylaxis and palliation. Radiation therapy to the head and neck, however, can elicit short- and long-term side effects and morbidity problems including mucositis, xerostomia, postradiation dental caries, soft tissue and osteoradionecroses, and physiologic and anatomic morbidity such as trismus, tissue atrophy and cosmetic defect.[1-3]

Successful treatment of head and neck tumors cannot be measured solely in terms of tumor eradication. The quality of survival must be considered.[4] Through cooperative effort by the radiation oncologist and oncology-experienced dentist, oral complications can be managed as needed and morbidity can be minimized or prevented.[3, 5]

Historical Review and Current Concepts

During the early years of radiation therapy, little was known of the long-term side effects of therapy and little consideration was given to the prevention of oral complications. Rampant postradiation dental caries was documented by del Regato[6] in the 1930s. Other complications seen frequently were xerostomia, trismus of the muscles of mastication and osteoradionecrosis. To prevent some of these problems, the extreme approach of total removal of teeth prior to radiation therapy was instituted. This drastic measure, indeed, did prevent dental caries and perhaps decreased the incidence of osteoradionecrosis, but it often left the patient a dental cripple. Residual radiation-induced mucosal injury, xerostomia, and trismus often interferred with or prevented prosthetic rehabilitation. Hence, though a patient had been "cured" of tumor, he was often left functionally and sometimes cosmetically debilitated.

Many radiation therapists began enlisting the aid of dental practitioners in the management of oral complications.[6] In 1937, the Cancer Commission of the State of Missouri finalized plans for the first categorical cancer hospital west of the Mississippi River (now the Ellis Fischel State Cancer Center) and included a dental facility in the hospital.[7]

Today, advances in radiation therapy technology, instrumentation and treatment techniques enable the radiation oncologist to more successfully eradicate tumor while maintaining the health of normal tissues. Still, many normal tissues, such as salivary glands and bone, cannot be totally protected from the effects of irradiation. Dental oncologic services can provide the radiation oncologist with the support he needs to control and treat oral side effects. The means are available to reduce inadvertent irradiation of normal structures, to selectively alleviate dental disease prior to radiation therapy that may later predispose to necrosis and to provide measures by which the patient can maintain his oral health and comfort.[5]

Oral Complications

Oral complications secondary to radiation therapy to the head and neck result from direct and

Radiation therapy to the head and neck area produces a number of short-term and long-term side effects. The authors discuss intervention activities undertaken by the dentist before, during and after therapy. All serve to control complications such as xerostomia, mucositis, irradiation-induced caries and trismus. These activities also serve to reduce or prevent morbidity and enhance the quality of survival.

Dr. McElroy is Associate Dental Oncologist and Maxillofacial Prosthodontist, Department of Dental Oncology, and Dr. Guerra is Director, Department of Dental Oncology, Ellis Fischel State Cancer Center.

indirect radiation effects on the oral and perioral tissues.

Mucositis — Radiation-induced inflammation and edema of the oral soft tissues can appear to varying degrees during therapy. Though usually transitory, irreversible mucosal injury that can limit the success of prosthetic treatment by reducing the tolerance of the oral tissues to prosthesis may occur. Mucositis can be exacerbated by poor oral hygiene, rough and decayed teeth, incorrect diet and ill-fitting or improperly worn dental prostheses.

Xerostomia — When salivary glands are necessarily or inadvertently irradiated, they cease to secrete normal quantities of saliva. Qualitative changes, such as increased viscosity and acidity, also occur.[8] The mouth and pharynx can become dry and uncomfortable, particularly when there is a superimposed mucositis. Xerostomia is essentially irreversible and can be detrimental to the ability to eat, and the ability to wear dental prostheses. In particular, it can reduce the mouth's natural cleansing properties that may lead to postradiation dental caries.

Postradiation Therapy Dental Caries — Dental caries following radiotherapy to the head and neck is secondarily due to the quantitative and qualitative changes in the saliva and oral environmental changes that enhance the proliferation and activity of cariogenic microorganisms.[9] Postradiation dental caries occurs particularly around the cervices of teeth where the softer root cementum is vulnerable. If not properly treated, teeth can self-amputate at the gingival level and may become abscessed or periodontally diseased or both. If this occurs to a tooth in an area of irradiated jaw, it may lead to osteoradionecrosis. Preventable by an adequate oral hygiene and fluoride regimen, it is no longer necessary to perform full mouth extractions, unless indicated, prior to radiation therapy.

Radiation-induced Necroses — Sufficient injury from irradiation may occur and cause soft tissues to necrose. Irradiated bone loses its ability to heal normally because of the loss of normal blood supply, fibrosis and decreased cellular reparative capacity.[10] This condition is not reversible with time and, in fact, may worsen because of continued tissue changes to a point of spontaneous necrosis. The incidence of soft tissue and osteoradionecroses appears to be proportional with the total radiation dose, and a high incidence is seen when intraoral interstitial therapy is used.

Osteoradionecrosis is often associated with some form of further insult to bone, such as from dental extraction, trauma, chronic irritation from ill-fitting dentures and, perhaps, infection-induced osteomyelitis. A common instance is that in which an uninformed patient unwittingly allows a dental extraction by a well-meaning dentist who is unaware of the patient's history of radiation therapy, and an osteoradionecrosis results. Osteoradionecrosis heals slowly, is susceptible to superimposed infection, may advance to a point of spontaneous jaw fracture, and may require disfiguring surgical intervention.

Trismus — Irradiation of the muscles of mastication can cause fibrosis and decrease in blood supply that may elicit a constant state of contracture of this musculature. Trismus is more likely to occur in a patient receiving conjunctive surgical treatment that inadvertently insults this musculature. Trismus can be very painful and limit oral opening, often to an extent that sufficient opening cannot be achieved for eating, oral hygiene measures and placement of dental prostheses. Trismus usually can be treated, with varying degrees of success, and is sometimes reversible with proper physical therapy. In some instances, it cannot be satisfactorily treated.

Anatomic Defects — Irradiation of tumors in the young patient may permanently damage and retard the growth centers of the face and jaws. As the child grows and develops, certain structures may remain atrophic leading to functional deficit and disfigurement. In adults, particularly when surgery and radiotherapy are used in conjunction or in instances of severe osteoradionecrosis, anatomic defects may be left after treatment. Such defects can be functionally and cosmetically debilitating as well as demoralizing.

ORAL/DENTAL MANAGEMENT

Oral/dental care of the head and neck radiation therapy patient is three-phase consisting of management prior to radiation therapy, during radiotherapy and after completion of radiotherapy.

Management Prior to Radiation Therapy — Oral examination and treatment planning must be done prior to radiation therapy. This can be accomplished concurrently with other pretherapy preparation. Consultation with the radiation oncologist will enable the dentist to know what oral structures will be irradiated in order to properly determine which procedures are immediately required and to plan overall dental treatment. Evaluation entails clinical and radiographic examination, dental history, assessment of oral hygiene and identification of frank pathologic processes and local factors that may predispose to complications.

Surgical correction is required prior to radiotherapy for hopelessly decayed and periodontally diseased teeth, retained roots, dental abscesses and poorly vascularized exostoses, such as lingual tori. A minimum of two weeks postoperative healing must be allowed by the radiation oncologist before he begins therapy.

Nonsurgical dental procedures require no delay in radiation therapy but are best accomplished prior to it. These procedures may include dental cleaning, oral hygiene instruction, institution of a fluoride regimen, restoration and polishing of rough and decayed teeth, nonsurgical endodontics and evaluation and correction of dental prostheses. Extremely important is that the patient is counseled in regard to oral side effects and their prevention. Education of the patient of the need for his continuing commitment to good oral hygiene, wearing prostheses properly and avoiding injury to irradiated tissues cannot be overstressed.

Occasionally, custom stent prostheses for use during radiotherapy are indicated. Intraoral stents can be fabricated to support interstitial sources during protractional radiotherapy. Intraoral stents also can be made to help protect normal tissues by displacement away from irradiation or shielding with encased metal or a combination of the two techniques. Extraoral stents can be fabricated to enhance consistent patient positioning; to equalize depth dosing using materials, such as wax that have absorption qualities similar to human tissues; or to position sources for external protractional therapy.[11]

Management During Radiation Therapy — Nonsurgical dental procedures can be continued into the first week of fractionation radiotherapy but should be completed promptly so as not to provoke or worsen mucositis. Patients should be observed at regular intervals during the course of therapy to monitor and treat mucositis, xerostomia and any dental emergencies that may arise. Oral hygiene adequacy can be reassessed and proper wearing of dental prostheses evaluated.

A variety of oral rinses may be prescribed depending on the severity of mucositis and xerostomia (Table 1). The patient may be instructed to leave dental prostheses out and may need reinforcement of oral hygiene measures. As in chemotherapy-induced mucositis, various medicaments and irritating substances should be avoided. Commercial mouthwashes may contain phenol or other alcohols and chemicals that can further injure the tissues. Lemon and glycerin swabs combine the harmful effects of citric acid with the desiccating effect of glycerin. However, glycerin in dilute quantities in other rinses may be helpful.

TABLE 1
ORAL RINSES FOR MUCOSITIS AND XEROSTOMIA
(In Order of Increasing Need for Palliation)

1. Water
2. Normal saline (0.9%)
3. Salt-soda (5 cc sodium bicarbonate/500 ml normal saline)
4. 1% hydrogen peroxide (added to #1 or #2 above)
5. Glycerin (5 ml/1000ml water, #1, or #2 above)
6. Artificial saliva (e.g. Xero-lube)
7. Benylin® syrup/Kaopectate® (equal parts)
8. Benylin® syrup/Kaopectate® (or Maalox)/Viscous Xylocaine 2%
9. Viscous Xylocaine® 2% (may need dilution)

Petrolatum should be avoided, due to its desiccating quality, and replaced with an emollient such as lanolin hydrous ointment for the treatment of cheilitis. Other substances, such as toothpastes containing strong mint oils, also should be avoided.[12] An oncology-experienced clinical dietitian will help to establish proper diet and food types to minimize discomfort during eating and to enhance nutrient intake.

Severe mucositis may necessitate delay in completion of radiotherapy that could endanger the prognosis of cancer eradication as well as decrease the quality of life for the patient. Measures that minimize mucositis will decrease the need for therapy delay, keep man-hours and treatment costs to a minimum and improve the quality of life for the patient during radiation therapy.

Management After Radiation Therapy — Transitory mucositis may require further palliation after completion of radiotherapy until it resolves. Irreversible side effects, such as xerostomia and tissue fibrosis, require continued attention for the remainder of patient survival. Reinforcement of oral hygiene technique, fluoride regimens and regular periodic dental cleaning will help to control dental caries, improve oral comfort and reduce the risk of necrosis. Xerostomia treatment must continue and consists of oral rinses, sufficient fluids and proper diet to compensate for difficulty in swallowing. Desiccating substances, such as commercial mouthwashes, should be avoided.

Restoration of postradiation dental caries must be performed promptly. Severely decayed teeth should be endodontically treated. Extractions and other surgical procedures are contraindicated unless absolutely necessary and only after thorough assessment of relation to directly irradiated tissues.

Treatment of osteoradionecrosis usually is conservative and consists of frequent irrigation of the necrotic site by the patient with normal saline; 1% hydrogen peroxide or a combination of the two; regular inspection and debridement by the dentist; and prophylactic antibiotics. Hyperbaric oxygen therapy has proved useful in healing enhancement and is prudent when surgical intervention is planned.[13, 14] In cases of severe necrosis, especially when surgical correction is required, soft tissue and osseous defects may result and can be disfiguring and functionally debilitating. The best treatment for osteoradionecrosis is prevention.

Trismus is treated by daily exercise and use of devices to increase oral opening, such as custom intraoral "dynamic bite openers" that utilize external elastics to compensate against muscle contracture. Trismus therapy is enhanced in patients with natural dentition, but it is more difficult in edentulous patients because there are no hard tissues against which to place an appliance. Sometimes, trismus is not treatable and the patient may be left unable to insert obturators or other dental prostheses, leaving the patient functionally and cosmetically handicapped.

Prosthetic rehabilitation is provided to restore the masticatory apparatus and dental cosmetics. It is further indicated when facial and intraoral anatomic defects remain after surgery and radiotherapy. Plastic surgical repair is often contraindicated because of unfeasibility, such as for hard palate defects, lack of viable blood supply in irradiated tissues, suspicion of residual tumor cells, general health problems and monetary limitations. For reasons discussed above, prosthetic treatment can be difficult and sometimes unsuccessful. The patient may be left with a functional, cosmetic and demoralizing loss.

Regular follow-up evaluations are made to ensure the maintenance of oral health and comfort and to detect serious sequelae early.

DISCUSSION

Rubin and Poulter[4] have stated, "The ideal in radiation therapy of malignant disease is achieved when the tumor is completely eradicated and the surrounding normal tissues show no evidence of structural or functional injury. In clinical practice, this ideal selective effect is obtained infrequently; as a compromise one accepts a certain degree of permanent residual damage . . . however, the integrity of vital tissues must be maintained." The success of head and neck tumor eradication is dubious if the quality of survival of the patient is poor because of functional and cosmetic debilitation, persistent morbidity problems and emotional demoralization.

All available measures must be taken to preserve the quality of life for the radiation therapy patient. Dental oncologic services, properly and timely provided in the scheme of radiation therapeutic management of head and neck malignancies, will help to ensure optimal maintenance of the quality of life for the patient.

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Cancer of the Colon and Rectum

An Overview, 1983

WITH AN ESTIMATED 126,000 new cases of colorectal cancer in the United States in 1983, which includes an estimated 58,000 deaths, cancers of the colon and rectum make up more than 60% of new gastrointestinal malignancies and account for about half of the deaths that occur secondary to gastrointestinal malignancies.[1] The majority of these tumors are cancer of the colon.

In spite of advances in the management of patients with colorectal cancer that have resulted in improved survival in selected series, the overall improvement in survival following treatment of this disease has been disappointing.[1, 2] Attention to detail of diagnosis, management and follow-up of cases as outlined below should increase survival in patients with colorectal cancer.

ETIOLOGY

There is considerable evidence indicating the importance of diet in the cause of cancer of the colorectum.[3] A correlation between colorectal cancer incidence and a high-meat and refined-sugar diet has been suggested. Conversely, other studies have shown a low incidence of colorectal cancer when the diet is low in meat and refined sugar and high in fiber. Both experimental and epidemiologic data suggest that bile acids and their metabolites enhance large bowel carcinogens. Fat and fiber may concentrate or dilute bile acids in the stool and may influence the incidence of colorectal cancer. Although the etiology of colorectal cancer is not clearly understood, it remains an area of important research.

There are several hereditary polyp syndromes of the colon that place individuals at high risk for developing cancer of the colon. Gardner's syndrome and familial polyposis of the colon are inherited as Mendelian dominants and appear in about 50% of offsprings.[4] The average age of onset is 20 years, and cancer usually occurs about 15 years after the beginning of symptoms. More than 90% of individuals with familial polyposis will develop carcinoma of the colorectum between the third and sixth decade if the polyposis is not treated. In addition to familial polyposis, a history of previous colorectal cancer, a history of genital or breast cancer in women or a family history of colorectal cancer may be associated with a modest increase in cancer of the colon.[5] There also is an increased incidence of colorectal cancer in patients with ulcerative colitis.[6] Devroede *et al* have reported that the incidence of cancer of the colorectum increases 10% to 20% per decade in patients who have had ulcerative colitis more than ten years.[7] The incidence is highest in patients who have total colitis and less in patients with restricted involvement. A modest increase in colorectal cancer also has been reported in patients with granulomatous colitis (Crohn's disease).[8]

POLYPS, CANCER AND STAGING

Although this topic has been one of considerable controversy, there is now good evidence to suggest that tubular, tubulovillous and villous polyps are precursors to cancer of the colorectum.[9] Both cancer and polyps are strongly related geographically and in regard to anatomic localization, socioeconomic class, migration ex-

Cancer of the colon and rectum represents a major public health problem in the United States. The author reviews staging, the polyp-to-cancer sequence and current information concerning the etiology of cancer of the colon and rectum. He also evaluates current techniques and indications for screening and diagnosis. The potential value of newer methods of treating cancer of the colon and rectum are presented and critiqued. He advises that attention to detail in the diagnosis and management of patients with colorectal cancer will improve survival in this group of patients.

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perience and time trend. These data are consistent with other information derived from clinical, morphologic and experimental studies. Adenomatous (tubular) polyps are a reliable epidemiologic indication of the risk of developing colorectal cancer. No such relationship applies to hyperplastic polyps or juvenile polyps.[9]

Villous polyps carry a high risk of cancer. Invasive cancer was noted in 48% of 169 patients who had villous tumors removed.[10] Colonoscopy has permitted careful follow-up of cases and treatment of patients with polyps of the colorectum. In comparing villous, villotubular and tubular (adenomatous) polyps, Shinya found that the incidence of malignancy was only slightly higher in villous tumors.[11] The incidence of invasive cancer in tubular, villotubular and villous tumors larger than 3 cm in size was 11%, 15% and 13%, respectively. Hence, although the presence of a villous component in a polyp has some importance, the size of that polyp is of greater importance in determining the potential for malignancy.

Certain characteristics of colon and rectal cancers relate to expected patient survival and allow meaningful comparison between groups of patients. The best known of these is the Duke's staging system, originally limited to use in rectal cancer.[12, 13] There have been many modifications of this system relating to variations of Duke's B and C tumors. In addition, the Duke's system has been used in colon cancer. As the simplest staging system, it remains one of the most commonly used. Duke's stages of colon or rectal cancer are relatively accurate indicators of prognosis (Table 1).[2]

SCREENING AND DIAGNOSIS

To be efficient, screening efforts should be directed toward individuals who are at high risk for developing malignancy and should be designed specifically for the groups to be screened. As noted previously, there are several groups of patients who have a relatively high risk of developing cancer of the colorectum. For example, little benefit would result from screening patients with ulcerative colitis with hemoccult slides since most would be positive.

TABLE 1
FIVE-YEAR SURVIVAL

Duke's Classification	*Percent Survival*
A — Confined to bowel wall	67%
B — Through bowel wall, negative nodes	58.6%
C — Regional nodal metastasis	33.3%
D — Distant metastasis	7.3%

Asymptomatic patients over 40 years of age have a twofold increase in the incidence of colorectal cancer each decade until age 75.[14] These individuals should have an annual sigmoidoscopy and hemoccult slide test.[15] If either of these test results is positive, a complete evaluation of the colorectum should be done by x-ray or colonoscopy or both. If these tests are not conclusive, the upper gastrointestinal tract should be evaluated. Patients with a significant family history should undergo this same screening procedure beginning at age 20. Patients with previous colon polyps or a previous colon cancer are at highest risk for recurrence within five years. They should have an air contrast barium enema and colonoscopy three to four months post-treatment and every two to three years subsequently. Hemoccult testing and sigmoidoscopy should be done every year. Patients with premalignant syndromes, such as familial polyposis, should be observed with colonoscopy at least yearly. Following subtotal resection of the colon in these patients, frequent sigmoidoscopy and biopsy are indicated.[15] Identification of early cancer by using these techniques will improve the results of treatment of colorectal cancer.

DIAGNOSIS

Carcinomas of the cecum characteristically present with pain, occult blood loss and a change in bowel habits.[16] Sigmoid tumors present with cramping abdominal pain and obvious blood loss. Up to 70% of tumors on the right side and 40% of tumors on the left side are actual masses. About 70% of cancers of the rectum are within reach of the examining finger. Patients with signs and symptoms consistent with colorectal disease should undergo a thorough history and physical examination. Proctosigmoidoscopy should aid in providing diagnosis in as many as 60% of patients.[17] The further evaluation of the lower gastrointestinal tract should be done with colonoscopy and contrast enema.[18] Biopsies of lesions can be done in almost all patients.

TREATMENT

The only treatment capable of curing colorectal cancer is surgery. Although other modalities may be useful adjunctively, surgery is the principal mode of treatment for patients with cancer of the colorectum. The evaluation of colorectal cancer consists largely of an effort to determine the resectability of the cancer and the ability of the patient to tolerate such a resection. The preoperative evaluation consists of complete blood studies, including carcinoembryonic antigen (CEA). Elevated preoperative CEA levels correlate with an increased incidence of recurrence in patients with cancerous lymph nodes.[19] An intravenous pyelogram is useful in evaluating the retroperitoneum and the location of ureters, and patients with rectal cancers should have cytoscopy. Potential sites for hematogenous metastases should be evaluated with chest x-ray and the appropriate radionuclear scans if an abnormality there changes the therapy. The patient's cardiovascular and pulmonary status must be evaluated carefully. Many of these patients may require nutritional support preoperatively. Psychological factors should not be ignored in patients requiring colostomy.

Following evaluation, the patient should be given an appropriate bowel preparation and then taken to the operating room. The goal is to excise the primary tumor, any extension into surrounding tissues and the draining lymph nodes. Efforts should be made to prevent local recurrence resulting from manipulation of the tumor. Extended local resections have been demonstrated to increase resectability and cure.[20] Pelvic exenteration for cancer of the rectum has resulted in five-year survival rates of 35%.[21] Special problems occur when either perforation or bowel obstruction occurs. The resection of obstructing tumors has resulted in cure rates equal to nonobstructed tumors of equal stage with a five-year survival rate of 40%.[22] However, the operative mortality in these patients has been reported as 17% in this series. Patients with perforating cancers have a five-year survival of half this when treated with resection and colostomy. The operative mortality in this group was 33%.

A major advance in the management of patients with cancer of the rectum has been the use of a low anastomosis with a sphincter-saving operation. In patients who are appropriate candidates, this procedure decreases morbidity and preserves anal function. The introduction of the circular stapler has been instrumental in this regard.[23] While preservation of sphincter function is important, the goal is to cure the cancer and not compromise with a less than adequate operation.

Selected patients may be candidates for local treatment of their rectal cancers. Deddish reported 86 patients who underwent local excision for cancer of the rectum.[24] Eighty-three percent survived for five years. Gingold noted that patient selection is important in the local treatment of carcinoma of the rectum.[25] He encountered a high incidence of failure of treatment with fulguration when these tumors were larger than 4 cm in diameter.

Precancerous lesions, such as familial polyposis, require prophylactic resection.[4, 16] There is considerable controversy about whether these patients should be treated with total proctocolectomy or subtotal colectomy with ileoproctostomy. If the latter is done, careful follow-up must be assured. Selected patients with "total" ulcerative colitis may require prophylactic colectomy to prevent cancer of the colon.[6, 7] Careful attention to the care and follow-up of such patients will result in a decreased incidence of cancer in this group.

In spite of these efforts, the current five-year survival expectancy for all patients with cancer of the colorectum is about 50%. Local recurrence has been a serious problem in patients with locally advanced but resectable rectal cancer.[26, 27] Duke's A and superficial B tumors have low recurrence rates. However, deep Duke's B tumors and C tumors fail to respond to treatment in 40% to 60% of the cases.[28] Radiation therapy has been combined with surgery in the management of such patients. There is some controversy over whether radiation should be given preoperatively, postoperatively or both. From the evidence presently accumulated, there is a strong indication that surgery in combination with preoperative, intraoperative or postoperative radiotherapy will decrease local recurrence and improve survival in selected patients with rectal cancer.[29] Additional prospective studies are currently in progress and should help resolve this problem.

The data suggesting the use of adjuvant chemotherapy are not as promising.[29] The problem with adjuvant chemotherapy in colorectal cancer is that only about 20% of the advanced cancers respond to chemotherapy.[27] In spite of this, some studies have suggested benefit from adjuvant chemotherapy alone and in combination with radiation therapy.[29] Major advances in this area must await the development of more effective chemotherapeutic agents.

Follow-up is an important aspect of the care of patients who have been treated for colorectal cancer. Recommendations for the endoscopic and contrast enema aspects of follow-up have been discussed previously. The purpose of follow-up is to identify patients with recurrent cancer at a stage when intervention will be of benefit to the patient. Polk and Spratt noted that the average recurrence rate following treatment of cancer of the colorectum was 10% to 15% for the first two years and 5% for the subsequent two years.[30] On this basis, we have developed a follow-up system by which patients are observed every three months for the first two years and every six months for the subsequent three years. Carcinoembryonic antigen is of value in detecting recurrent disease in about one third of patients.[31] The CEA in combination with liver function tests should be done at each visit. A chest x-ray and complete blood count should be made, also. There is some controversy over whether aggressive follow-up such as this results in the identification of resectable recurrence. Some authors report resectable recurrence rates in 5% to 7% of patients so observed.[32, 33] On the basis of this information, we recommend aggressive follow-up.

The treatment of recurrent cancer of the colorectum with aggressive surgical resection in selected patients is an accepted modality and represents the only hope for cure for these patients.[33-35] The value has been demonstrated in colorectal cancer metastatic intra-abdominally to the liver and lungs. The proper palliation of the patient with recurrent or noncurable colorectal carcinoma or both depends on the general condition of the patient, the location of the tumor and the problem being palliated. As a general rule, patients with primary noncurable tumors of the colon and rectum will benefit from palliative resection of the tumor.[36, 37] Exceptions to this rule are patients older than 75 years of age, those with a history of cardiovascular disease or those with massive liver metastases. Selected patients may have other contraindications. However, the majority of patients will benefit from this treatment. In those patients with recurrent or residual nonresectable cancer, radiation therapy in moderate doses can be expected to provide good palliation of symptoms.[38] In spite of generally poor results from chemotherapy, response occasionally may be excellent in a patient. Hence, chemotherapy should be considered. The selective infusion of liver metastasis via either hepatic artery or portal vein catheter has been reviewed elsewhere and has demonstrated good results in selected patients.[13]

CONCLUSION

The impact of colorectal cancer on the population of the United States is greater than that of any other gastrointestinal malignancy. Attention to available methods of management outlined here will improve survival in patients with colorectal cancer. Major advances in the treatment of colorectal cancer must await the development of new chemotherapeutic agents and radiation therapy techniques.

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Surgical Rehabilitation of The Alaryngeal Patient

THE AMERICAN CANCER SOCIETY[1] estimated that 11,000 new cases of laryngeal cancer would be diagnosed in this country in 1983. Many of these patients would eventually be offered laryngectomy in an attempt to eradicate the malignant process. The prospect of permanent loss of the ability to communicate by verbal means makes the acceptance for laryngectomy for the cure of cancer one of the most difficult decisions a patient can be asked to make. The irremediable loss of voice can have devastating physical and psychological consequences for the patient and a generally adverse impact in relationships with others when rehabilitation attempts fail to provide the individual with the ability to be understood clearly.

Despite recent progress in surgical techniques and prosthetic materials, there is no ideal substitute for the human voice silenced by the surgical procedure. Such is the magnitude of the problem. Surgeons, speech pathologists, nurses, social workers and any other members of the team associated with the care of patients undergoing laryngectomy have the unique responsibility of knowing the best available means of voice rehabilitation. It is the purpose of this article to present a historical perspective and the current status of surgical speech rehabilitation.

HISTORICAL NOTES

It is appropriate that on the 110th anniversary of the first laryngectomy, Rush's[2] chronicle of Billroth's concerns and efforts that culminated in the development of the first prosthetic device for voice rehabilitation be remembered. These efforts represent an achievement of excellence even with the present high standards of surgical research. After becoming professor of surgery in Vienna in 1867, Billroth suggested the development of an animal model for laryngectomy. Vincenz Czerny accomplished this task in three years and a publication on successful canine laryngectomy appeared in 1870. Aware of the devastating effects of laryngectomy, another associate of Billroth was commissioned to work on the development of a prosthetic device for voice rehabilitation. Gussenbauer[3] designed the first reed larynx that was successfully used in Billroth's first laryngectomee. Without the benefit of aseptic techniques and antibiotics, a pharyngostomy became part of the procedure. The principle of this external appliance was to shift air from the permanent tracheostomy to the midline pharyngostomy. With the development of safer anesthesia, antisepsis and improved postoperative care, the use of a routine pharyngostomy could no longer be justified and the appliance could not be used. The "dark ages" in the area of voice rehabilitation thus began and continued for more than half a century.

NONSURGICAL METHODS OF SPEECH REHABILITATION

The development of the field of speech pathology witnessed a rebirth of the efforts to provide laryngectomy patients with a reliable method of phonation. Esophageal speech became and remains the preferred noninvasive means of vocal

Surgical procedures to substitute the normal voice silenced by laryngectomy are as old as the first total extirpation of this organ. The devastating physical and psychological consequences of this operation merit aggressive efforts to rehabilitate the laryngectomee. More than 100 years after the first attempt to provide good voice quality to the alaryngeal patient and after a multitude of surgical procedures, the introduction of a safe and reliable method of phonation utilizing a simple prosthesis has brought further hope to patients undergoing laryngectomy. The chances for a successful voice rehabilitation are greatly enhanced by a dedicated multidisciplinary team approach.

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rehabilitation. Despite the reported 93% success rate by Hunt[4] in 1964, Heaver *et al*[5] noted a 27% failure rate while Putney,[6] Goode,[7] MacComb and Fletcher[8] found failures in 38%, 50% and 52% of cases respectively in centers with good speech pathology resources. Moreover, the average esophageal speaker takes six months to one year to master air deglutition-phonation techniques. Even experienced esophageal speakers lack the natural flow of sound permitted during a normal expiratory phase.

Simultaneously with the development of esophageal speech, external vibrators were introduced and provided the simplest noninvasive means of verbal communication. External appliances that make use of vibrators provide a monotonous mechanical voice that is, at times, difficult to understand. These appliances have the greatest usefulness in patients who have been unable to learn esophageal speech and who are not candidates for reconstructive operations. These devices also are useful for providing an alternate method of speech in the early postlaryngectomy period when moral support for the patient is most important and no other means of vocal communication exist.

There are two basic types of vibrators. The transcervical artificial larynx is a handheld, battery-operated apparatus that produces a low-pitched sound in the hypopharynx that causes the neck tissues to vibrate. This sound is then modulated into speech by the tongue, lips, teeth and palate. The transoral type, which may be either an electric or a pneumatic device, provides sound through a tube into the mouth where it is articulated into speech. However, previous radiotherapy to the neck renders the tissues too rigid to vibrate and the transoral types are conspicuous and have the tendency to become obstructed.

Rehabilitation by Surgical Methods

As a result of dissatisfaction with other methods of voice rehabilitation and in search of the "ideal" procedure, the last 15 years have witnessed commendable efforts from head and neck surgeons throughout the world to devise operations that would provide the best alternative. For the purpose of clarity, these procedures fall into the following two general categories:

1. *Phonatory Neoglottis* procedures make use of various internal fistulas, valves and tissue flaps in patients with partial or total laryngectomies. Early attempts after those of Billroth, Czerny and Gussenbauer also employed external devices. Casselli in 1879 and Roswell Park in 1886,[9] who also performed the fourth laryngectomy in this country, are classical examples. Sporadic efforts continued during the following 50 years but none with lasting success.

In 1959, Asai first performed a surgical technique he termed "laryngoplasty." His original publication in 1960[10] stimulated American surgeons[11] to apply this procedure for voice rehabilitation. Asai described a skin-lined tube between the tracheostomy and the pharynx that resulted in remarkably good voice quality. The technique from laryngectomy to rehabilitation involved a three-stage procedure: the resection, construction of a pharyngostomy and the creation of the dermal tube. Karlan[12] reduced this technique to two stages by leaving a pharyngofistulà at the time of laryngectomy. Among 72 patients reported by Asai in 1972, significant morbidity approached 30% as evidenced by ten cases of rupture of the dermal tube, ten cases of stenosis of the pharyngeal fistula and two cases of aspiration pneumonia. Karlan achieved excellent results in three or four patients and recognized that aspiration was a major problem as was the need to digitally occlude the dermal tube when swallowing. Utilization of a modified Tucker valve eliminated the need to occlude the tracheostomy.

In 1972, Montgomery[13] published a one-stage operation in which, at the time of laryngectomy, a mucous membrane communication was established between the hypopharynx and an anterior cervical cutaneous threphine incision. A second stage, nevertheless, was needed to construct a communicating skin tube. Among 31 first stage procedures, the second stage was completed in 16 patients and ten patients achieved good voice. As pointed out by Montgomery,[13] good esophageal speech is still the preferred, noninvasive method of phonation. It requires no additional surgery, valves or finger occlusion of the stoma.

The European efforts in the early 1970s were highlighted by significant contributions from Arslan and Serafini[14] who preserved the body of the epiglottis and lifted the trachea for anastomosis with the hypopharynx, necessitating a separate tracheostomy through the fifth tracheal ring. Manuel Vega[15] from Spain was attracted by the Serafini technique and introduced several modifications that included preservation of a posterior triangular segment of cricoid cartilage as a "neoepiglottis" and resection of the hyoid bone to permit downward displacement and tracheohyoid anastomosis. Erwin Mozolewski and colleagues[16] from Poland reported a mucosal-lined shunt in cases of supracricoid laryngectomy when part of the laryngeal vestibular structure was preserved. Staffieri[17] created a neoglottis from pharyngeal mucosa and anastomosed the trachea to the esophagus. Other techniques of neoglottic reconstruction followed. Prominent among them is the Iwai[18] modification of the Asai procedure in which the preserved lateral thyroid cartilages are sutured in the midline and elevated toward the hyoid bone.

Tracheoesophageal shunts were popularized in this country by Calcaterra and Jafek[19] and Komorn *et al*[20] by using the Conley's[21] principle of creating a tunnel of full thickness esophageal wall to connect the upper aerodigestive tract.

Indeed, other efforts to construct a neolarynx have followed. Rush *et al*[22] reported an operation using a cervical "bucket handle" flap to replace the larynx. This bipedicle flap was used to form a neoepiglottis.

2. *External fistulas* attempted to eliminate the distressing problems associated with organic materials to create shunts and fistulas that shifted air from the trachea to the esophagus or pharynx. Prosthetic materials were designed to either join the trachea and a pharyngostomy or to stint a tracheoesophageal puncture.

Shedd and colleagues[23] reported a reed-fistula method of speech rehabilitation after laryngectomy in 1972. It consisted of an inner valve and fistula tube in the pharynx connected to a tracheostomy tube through an inspiratory valve, reed housing and a trap for saliva. In 1974, the same authors reported a simplified method in which a skin-lined midline speech fistula was connected to an appliance.[24] The former procedure was advocated for patients undergoing extensive laryngopharyngectomy, whereas the air-tunnel method was recommended for selected patients. These procedures resulted from their interest in the work by Taub and Bertner.[25]

More recently, Singer and Blom have designed what is the simplest and most effective external fistula yet created. In their first report in 1979,[26] the prosthesis and procedure were described in detail. In essence, they consist of an endoscopic technique when a needle tracheoesophageal puncture is made and stinted for 48 hours. The "duckbill" prosthesis is then inserted and taped in place. In 1980, further experience was reported by the same authors[27] in 60 patients, 90% of whom achieved fluent voices. Their early and current experiences have been shared by many others. Panje and colleagues[28] developed a similar prosthesis using essentially the same method.

Results and Discussion

The common denominator in all of these efforts is the provision of the best possible voice with minimal morbidity, time and expense. As pointed out previously, the sporadic reports in the early part of the century do not allow for a meaningful analysis of results. The judgment of the "quality of voice" is a rather subjective evaluation of an operation often masked by the natural tendency to emphasize the good results. Therefore, in determining the value of a technique of voice rehabilitation, one must take into consideration several important factors. The first and foremost is the cure of the malignant process. Although conservative laryngeal surgery has a place in the management of selected laryngeal cancers, it must not be employed as a compromise in order to achieve speech rehabilitation with one of several previously reported neoglottic reconstructive procedures. Very often, a necessarily aggressive attack upon the laryngopharynx and neck contents makes the application of neoglottic procedures impossible.[15-18]

An editorial comment appearing with the publication of Arslan[14] impresses the reader with the high recurrence rate after conservative procedures. Morbidity and complexities of multistage procedures have undoubtedly impeded popularity of many reconstructive operations. The majority of publications cite various incidences of salivary leak, aspiration, maintenance of fistula tracts, interference with pharyngeal function, and the disadvantages of wearing elaborate prosthesis, most of which are not airtight, leak-proof and self-retaining in addition to the requirement of manual control for phonation. A critical evaluation of speech fistula published by Edwards[29] describes these problems in detail and concludes, "While the advantages of fistula speech are remarkable, the problems inherent in a surgical fistula into the pharynx are formidable, and until they are satisfactorily solved, fistula speech cannot become generally acceptable as a practical means of voice rehabilitation." Therefore, a number of requirements for an ideal surgical procedure that restores a good quality of voice must be met, as follows:

1. Reconstruction must not interfere with present or future means of cancer control.

Radiotherapy may render tissues suboptimal for reconstruction.

2. Simplicity of performance.
3. Minimal morbidity.
4. Good quality of voice soon after laryngectomy.
5. Early hospital discharge, early return to work, minimal expense.
6. Interference with aerodigestive function must not occur, i.e., dysphagia, aspiration, leaks.
7. When prostheses are required, they must be inexpensive, well-tolerated, durable, easy to clean and replace, comfortable and inconspicuous and should operate without digital control.

At the present time, multistage procedures for voice rehabilitation are seldom performed in this country with the exception of selected operations during conservative laryngeal surgery. Elaborate external prostheses have largely been abandoned. In its simplicity and with the excellent results achieved, the technique of Singer and Blom has become the preferred surgical procedure for speech rehabilitation after total laryngectomy. To date, well over 1,000 Singer-Blom procedures have been completed in this country, and Singer's[30] experience with more than 400 cases has resulted in a continued 90% success rate.

The approach to voice rehabilitation at our institution is initiated at the time of admission of the patient to the hospital when laryngectomy is recommended as part of the cancer therapy. The Laryngectomy Support Team formed by the surgeons, a speech therapist and senior members of our nursing and social services staff meet with the patient and the family to discuss in detail the operative intervention, planned extent of the procedure, possible complications and expected cosmetic and functional results. The irremediable loss of normal voice is discussed at length as well as the potential physical and psychological consequences. The socioeconomic and educational background of the patient as well as age, general and medical status and motivation for recovery are assessed to determine the possibilities of speech restoration.

Other means of communication are explored. A psychological analysis, if required, is performed by a consultant. Two films are then shown to the patient and family; the first relates to techniques and benefits of esophageal speech training and the second shows the tracheoesophageal puncture technique of Singer and Blom, depicting one of our patients who has achieved an excellent voice. Also explained are the extent of the resection, the need for further treatment, and the possibility of recurrence that may alter the quality and degree of voice rehabilitation.

After contact with the support team and with most unfounded fears dissipated, the patient undergoes laryngectomy with the knowledge that diligent efforts will be made to restore ability to speak. In the early postoperative period, the patient is provided with a battery-operated artificial larynx. Following laryngectomy, patients should not become dependent on vibrators for communication because such dependence may cause patients to lose their motivation to undergo training or other procedures that may enhance their voice quality.

After completion of healing, the patient is again evaluated by the Laryngectomy Support Team and the benefits and disadvantages of esophageal speech training or a tracheoesophageal puncture for a Singer-Blom prosthesis are explained. If the patient chooses the former, the speech pathologist then takes charge of esophageal training for voice restoration. Otherwise, after a postoperative period of three to six months, the patient is hospitalized to undergo a tracheoesophageal puncture and insertion of a Singer-Blom prosthesis. Under the guidance of a multidisciplinary team, the patient becomes independent in the insertion, taping techniques and care of the prosthesis and the fistula.

The natural voice cannot be restored after laryngectomy. However, new developments have made successful rehabilitation of the alaryngeal patient possible. Rehabilitation is immensely enhanced by a dedicated multidisciplinary team effort.

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Cancer of the Colon and Rectum

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In Memoriam

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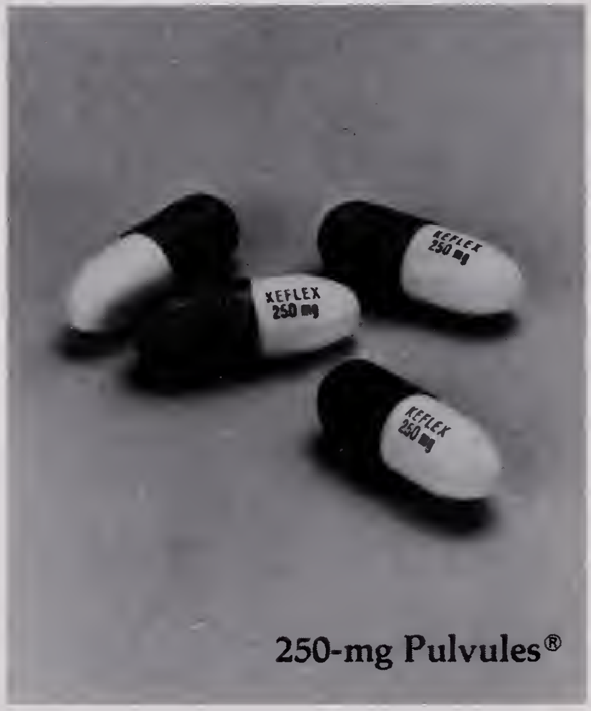

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President's Message

HAVE YOU NOTICED YOUR MEDICAL PRACTICE CHANGING?

The December, 1983 report of the Council on Long Range Planning and Development of the American Medical Association presents some interesting perspectives. Here is some input for your computer or grist for your "thinking and planning" mill:

Ronald A. Youmans, M.D.

Perspectives.

1. The environment of medicine is becoming more dynamic.
2. Cost pressures are the principal driving force.
3. Governmental initiatives are the most likely source of immediate change.
4. Changes in medical technology are the most potent long range force of change.
5. There is uncertainty about trends in the fundamental forces: (a) implications of technology; (b) demand for medical resources; and (c) the assumption that demand will grow more slowly than supply.
6. The potential for economic dislocation in the medical care environment is increasing.
7. There is a growing sense of economic uncertainty in the medical sector.
8. The issues are increasingly dictated by forces at work in the general society.
9. Health policy issues are becoming more politicized.
10. Changes may lead to the unexpected divisions and alliances on health policy issues.

Low Income Insured Families. Regardless of income, individuals now continue after "policy issues."

Outlook For the Health Sector Economy. Health expenditures will increase from $286.6 billion in 1981 to $755.6 billion in 1990. Recent projections based on the assumptions that economy-wide inflation will continue to moderate and real GNP will continue to grow, health expenditures will account for 12% of the gross national product (GNP) in 1990. Who complains about transportation requiring 22% of the GNP or recreation claiming 17% of the GNP? The percentage of health expenditures financed by government will remain about 43%. Physicians' services will continue to constitute about 21% of the personal health care expenditures. You will recall that 40% is distributed to long-term nursing care facilities and about 39% to acute care hospitals.

Demand for Physicians' Services. On the average, the 1981-1982 recession did not cause patients to reduce their utilization of medical care even as the state of the economy deteriorated. The typical physician did not experience a decline in practice income as a result of the recession although there were reports of delayed collection. In 1982, 79% of the physicians reported treating patients who had lost health care insurance through employment, although I suspect there are many who did not report this to the survey. Ten of the physicians surveyed donated their services. Visits per year: 17 to 24 years of age — 2.8 (male), 5.7 (female). 45 to 64 years of age — 4.4 (male), 5.7 (female); 65 to 74 years of age — 5.5 (male), 7.0 (female); over 75 years of age, 6.7 (male), 6.4 (female).

Population Growth Rate During the 1970s. The population grew by 11%. In the 1980s, the population will grow by 9.7%.

(Continued on next page)

Benefit Programs. Individuals with health insurance use more physicians' services than those without coverage. Individuals with hospital insurance have higher admission rates, especially for low-income, insured families. Regardless of income, individuals without coverage have longer stays in the hospital. Rates of surgery are higher for the insured population.

Hospital Resources. Between 1970 and 1981, the total number of hospitals decreased by 2.7%; total number of hospital beds decreased by 15.7%. The number of hospital personnel (full-time equivalent) increased by 44.3%. Hospital admissions during this same interval increased by 23.3%, indicating that the "typical" U.S. hospital became smaller in terms of bed size and, consequently, had a substantial increase in admission and personnel per bed.

Economics of Medical Practice. In 1973, the average net income of physicians was $48,600; in 1982, it was $99,500 with an average adjusted (for inflation) decrease of 0.7% per year. The average number of office visits per week in 1975 was 100.8; in 1982, it was 81.8. The number of visits on hospital rounds per week in 1975 was 32.6; in 1982, 34.1.

Competition. The supply of physician manpower has increased faster than the population in recent years. In 1970, there were 152 active physicians (M.D.) per 100,000 persons. It is projected that there will be 248 active physicians per 100,000 persons in the year 2000. It is likely that the need for physicians' services will not increase as rapidly as the supply of physician manpower.

Despite all The Changes, the "old time philosopher" still favors the provision of personalized health care services provided by a private physician who provides good personal advice as well as access to scientific advances. The patient should carry a major responsibility for health care activities.

—Statistics quoted are from "The Environment of Medicine"; Report of the AMA Council on Long Range Planning and Development, 1983.

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The New Year is here with our resolutions and promises of something better. Think about the "masks" most of us present daily to those around us. Will it ever be possible for us to completely remove them all? Perhaps this is one of the special goals better communications is all about.

"Masks"

"Don't be fooled by me, don't be fooled by the face I wear. For I wear a thousand masks that I am afraid to take off — And none of them is me.

"Pretending is an art that is second nature with me, for God's sake, don't be fooled. I give the impression that I am secure, that all is sunny and unruffled with me within as well as without, that confidence is my name and coolness my game. That the water is calm and I am in command, and that I need no one, but don't believe me, please.

"My surface may seem smooth but my surface is a mask. Beneath this lies no complacence; In this swells the real me, in confusion, in fear, and aloneness.

"But I hide this, I don't want anyone to know it. I panic at the thought of my weakness and the fear of being exposed. That is why I frantically create a mask to hide behind — a nonchalant, sophisticated facade to help me pretend, to shield me from the glance that knows.

"But — such a glance is precisely my salvation, my only salvation, and I know it; that is, if it is followed by acceptance, by love. It is the only thing that will assure me of what I can't assure myself — that I am worth something.

"But I don't tell you this. I don't dare. I am afraid to.

"I am afraid that your glance will not be followed by acceptance and love. I am afraid that you will think less of me, that you will laugh at me. And your laugh will kill me. I am afraid that deep down I am nothing, that I am no good, and that you will see this and reject me.

"So, I play my game, my desperate game, with a facade of assurance without, and a trembling child within.

"And so begins the parade of masks, and my life becomes a front. I idly chatter to you in the suave tones of surface talk. I tell you everything of what is really nothing and nothing of what is really everything, of what is crying within me.

"So, when I am going through my routine, do not be fooled by what I am saying, by what I would like to be able to say, what for survival I need to say, but what I can't say. I dislike hiding, honestly. I dislike the superficial game I play. I like to be spontaneous and genuine, and Me.

"But you've got to help me. You've got to hold out your hand even when it's the last thing that I seem to want. Only you can wipe away from my eyes the blank stare of breathing death. Only you can call me into aliveness.

"Each time you are kind and gentle and encouraging, each time you try to understand because you really care, my heart begins to grow wings, very small wings, very feeble wings, but wings.

"With your sensitivity and sympathy and power of understanding you can breathe life into me, I want you to know that. I want you to know how important you are to me, how you can be the creator of the person that is Me if you choose to.

"You alone can break down the wall behind which I tremble. You alone can remove my mask. You alone can release me from my shadow world of panic and uncertainty. From my lonely person.

"Don't pass me by — Please do not pass me by.

"It will not be easy for you. A long conviction of worthlessness builds strong walls. The closer you come to me the more blindly I strike back. I fight the very thing I cry out for, but I am told that love is stronger than walls and in this lies my hope. Please try to beat down these walls with firm hands but with gentle hands, for I am very sensitive.

" 'Who am I?' You may wonder.

"I am someone you know very well. I am every man you meet, I am every woman you meet.

"I am — You."

—From a seminar on "Oral Communications" at the AMA Auxiliary Confluence in Chicago in October, 1983.

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Preliminary Program

MISSOURI STATE MEDICAL ASSOCIATION

126th Annual Convention

Marriott's Pavilion Hotel, St. Louis March 29-April 1, 1984

WEDNESDAY, MARCH 28

10:00 AM-
1:00 PM MOMEDICO Board of Directors and Stockholders Meeting

THURSDAY, MARCH 29

8:00 AM Registration of Delegates.
10:30 AM **House of Delegates Meeting.** Opening Session.
12:00 NOON Jackson County Medical Society Luncheon.
12:00 NOON St. Louis Metropolitan Medical Society Luncheon.
1:00 PM Reference Committee Meetings.
Senator Room
Diplomat Room
Consul Room
6:00 PM Missouri State Surgical Society Board of Directors. Cocktails and Dinner.
"*Strategic Planning for Psychiatry*"
Speaker: Mel Sabshian, M.D., Medical Director, American Psychiatric Association, Washington, D.C.
6:30 PM MSMA Auxiliary Sixth Annual Benefit Auction for the AMA-ERF and MSMF.

FRIDAY, MARCH 30

7:00 AM Councilor District Breakfasts.
District No. 4. District No. 8.
District No. 5. District No. 9.
District No. 6. District No. 10.
7:45-
10:00 AM Complimentary Coffee and Rolls.
8:00 AM Registration.
8:30 AM Missouri University Board of Directors Breakfast and Meeting.
9:00-
10:30 AM Workshops.
10:30 AM Intermission to View Exhibits.
11:00 AM-
12:30 PM "*New Developments End-State Renal Disease*"
Speaker: Hershel Harter, M.D., Associate Professor of Medicine, Washington University; Director, Chromalloy American Kidney Center, St. Louis.
Sponsored by the Missouri Society of Internal Medicine
11:00 AM-
12:30 PM *Annual Charles A. Brasher, M.D. Medical Lectureship.*
Sponsored by the Missouri Thoracic Society and American Lung Association.
11:00 AM-
12:30 PM *Scientific Program.* Sponsored by the American Cancer Society, Missouri Division, Inc.
11:00 AM-
12:30 PM *Scientific Program.* Sponsored by the Missouri State Surgical Society
12:00 NOON Missouri Dermatological Society, Inc. Board of Directors Meeting.
12:30 PM Missouri University Medical Alumni Luncheon.
12:30 PM Jackson County Medical Society Luncheon.
12:30 PM Student Councilor District Luncheon.
1:00-
4:30 PM Introductions, James Roller, M.D., President, Missouri Dermatological Society, Inc.
1:05 "*Cosmetics*"
Speaker: Marianne N. O'Donoghue, M.D., Associate Professor of Dermatology, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Ill.
2:00 *Case of the Year.*
Speaker: Daniel J. Santa Cruz, M.D., Pathologist, Barnes Hospital, St. Louis.

3:00 Refreshment Break.
3:15 *"Pigmentation Disorders"*
Speaker: Marianne N. O'Donoghue, M.D.
Sponsored by the Missouri Dermatological Society, Inc.
2:00 PM St. Louis Metropolitan Medical Society Caucus
2:00-
3:30 PM *"Drug Interaction in the Pulmonary Disease Patient"*
Speaker: Peter G. Tuteur, M.D., Associate Professor of Medicine, Washington University, Pulmonary Disease Division, St. Louis.
Sponsored by the Missouri Society of Internal Medicine.
2:00-
3:30 PM *Scientific Program.*
Business meeting immediately following Scientific Program.
Sponsored by the Missouri State Surgical Society.
2:00-
3:30 PM *Scientific Program.* Sponsored by the Missouri Society of Pathologists.
2:00-
3:00 PM *"Common Dilemmas in the Care of the Newborn — Case Presentations"*
Speaker: William Keenan, M.D., Professor of Pediatrics, Director of Neonatal Services, Cardinal Glennon Memorial Hospital for Children, St. Louis.
Sponsored by the Missouri Chapter, American Academy of Pediatrics.
2:30-
4:00 PM **Missouri State Medical Foundation Annual Meeting.**
3:30-
4:00 PM Intermission to View Exhibits.
4:00 PM **House of Delegates.** Second Session.
6:00 PM Reference Committee Meetings.
6:00-
7:30 PM St. Louis University Alumni Reception.
6:00-
7:30 PM Washington University Alumni Reception.
6:30 PM Missouri State Surgical Society. Cocktails and Dinner.
6:30 PM Missouri Society of Pathologists. Cocktails and Dinner.
6:30 PM Missouri Dermatological Society, Inc. Cocktails and Dinner.
6:30 PM Missouri Society of Anesthesiologists. Cocktails and Dinner.
7:00 PM Missouri Ophthalmological Society, Inc. Board of Directors Dinner.

SATURDAY, MARCH 31

7:00 AM Councilor District #10 Breakfast.
7:30 AM MSMA Auxiliary Public Affairs Breakfast.
7:30 AM Missouri Society of Anesthesiologists Breakfast for the Executive Committee.
7:30 AM Missouri Society of Anesthesiologists Breakfast.
7:30 AM Missouri Ear, Nose and Throat Association, Inc. Breakfast and Business Meeting.
7:30 AM-
5:00 PM American Academy of Dermatology Postgraduate Course.
7:45-
10:00 AM Complimentary Coffee and Rolls.
8:00 AM Missouri Radiological Society Board of Directors Breakfast.
8:00 AM Registration.
8:00 AM-
12:00 NOON *Infectious Disease Seminar*. Sponsored by the Missouri Section of ACOG and the Eli Lilly and Company
8:30-
12:00 NOON "Current Techniques in Inter-Ocular Lens Implants" Sponsored by the Missouri Ophthalmological Society, Inc.
9:00-
10:30 AM *Scientific Program*. Sponsored by the American Heart Association, Missouri Affiliate, Inc.
9:00-
10:30 AM *Scientific Program*. Sponsored by the Missouri Ear, Nose and Throat Association, Inc.
9:00-
11:50 AM Greetings, Announcements and Introductions. T. Reed Maxson, M.D., President, Missouri State Allergy Association.
9:05 *"New and Old Vaccines"*
Speaker: Joseph A. Bellanti, M.D., Director of Interdisciplinary Studies, Georgetown University School of Medicine, Washington, D.C.

10:00 Refreshment Break
10:15 *"Sinusitis and Bronchial Asthma"*
Speaker: Jeffrey M. Wright, M.D., St. Louis University School of Medicine, St. Louis.
10:45 *"Subclasses of IGG and Their Clinical Relevance"*
Speaker: Scott Frankel, M.D., Washington University School of Medicine, St. Louis.
11:15 *Open Dialogue.*
Panelists: Joseph A. Bellanti, M.D., Jeffrey M. Wright, M.D. and Scott Frankel, M.D.
Moderator: T. Reed Maxson, M.D., Warrensburg.
Sponsored by the Missouri State Allergy Association.

9:00-
12:00 NOON *Clinical Risk for Anesthesia and Surgery*
Speaker: Robert Vaughn M.D., Professor and Chairman of Anesthesiology, University of North Carolina, Chapel Hill, N.C.
Sponsored by the Missouri Society of Anesthesiologists.

9:00 AM-
12:00 NOON *Scientific Program.* Sponsored by Physical Medicine and Rehabilitation.

9:15-
11:30 AM *Scientific Program.* Sponsored by the Missouri Radiological Society.

9:30 AM **Discuss the Issues With Your AMA Delegates.**

10:30 AM **Intermission to View Exhibits.**

11:00 AM-
12:30 PM *"Sports Medicine, Prevention and Treatment of Injuries, Especially in the High School Athlete"*
Speaker: Jon Browne, M.D., Kansas City.
Sponsored by the Missouri Academy of Family Physicians.

11:00 AM-
12:30 PM *Scientific Program.* Sponsored by the Missouri State Surgical Society.

11:30 AM-
12:30 PM Missouri Radiological Society. Membership Meeting.

12:00 NOON Missouri Society of Anesthesiologists. Luncheon and Business Meeting.
12:00 NOON Missouri State Allergy Association. Luncheon.
12:00 NOON Missouri State Neurosurgical Society. Luncheon.
12:00 NOON Missouri Section ACOG. Luncheon.
12:00 NOON American Medical Women's Association. Luncheon.
12:00 NOON Missouri Ophthalmological Society, Inc. Luncheon.
12:00 NOON American Academy of Dermatology Lunch Break.
12:00 NOON Physical Medicine and Rehabilitation Luncheon. Business and Board Meeting.
12:30 PM Missouri Radiological Society. Luncheon.

1:30-
3:00 PM Missouri Section ACOG Advisory Board Meeting.

1:30 PM **Intermission to View Exhibits.**

1:30-
4:00 PM *Continuation of Scientific Program.* Sponsored by the Missouri Ophthalmological Society, Inc.

1:30-
3:50 PM *"New and Old Food Allergy Testing Procedures"*
Speaker: Robert J. Dockhorn, M.D., Pediatric Allergist, Shawnee Mission, Kan.
2:00 *"Seldom Asked Questions About Allergy Skin Testing"*
Speaker: Daniel Hamilos, M.D., Washington University School of Medicine, St. Louis.
2:30 *"Stinging Insect Sensitivity"*
Speaker: Timothy Lind, M.D., St. Louis University School of Medicine, St. Louis.
3:00 Refreshment Break.
3:15 *Open Dialogue.*
Panelist: Robert J. Dockhorn, M.D., Daniel Hamilos, M.D. and Timothy Lind, M.D.
Moderator: T. Reed Maxson, M.D., Warrensburg.
Sponsored by the Missouri State Allergy Association.

2:00-
3:30 PM *"Differential Diagnosis and Pharmaceutic Treatment of Depression"*
Speaker: Robert E. Rakel, M.D., Professor of Family Practice, University of Iowa, Iowa City, Iowa.
Sponsored by the Missouri Academy of Family Physicians and Mead Johnson Pharmaceutical Division.

2:00-
4:00 PM *"Impact of Changing Health Care Policies on Anesthesiologists"*
Speaker: Robert Vaughn, M.D., Professor and Chairman of Anesthesiology, University of North Carolina, Chapel Hill, N.C.
Sponsored by the Missouri Society of Anesthesiologists
4:00-
4:45 PM Missouri State Allergy Association. Annual Meeting.
6:00-
7:00 PM **Installation of Officers.**
7:00-
8:30 PM **MSMA Reception.**

SUNDAY, APRIL 1

7:30 AM **House of Delegates Breakfast and Final Session.**
9:00 AM-
11:30 PM Missouri Dermatological Society Inc. Clinical Case Presentations, St. John's Mercy Medical Center, St. Louis.
10:00 Refreshment Break.
10:30 Discussion of Clinical Patients.
11:00 General Meeting.
Sponsored by the Missouri Dermatological Society, Inc.

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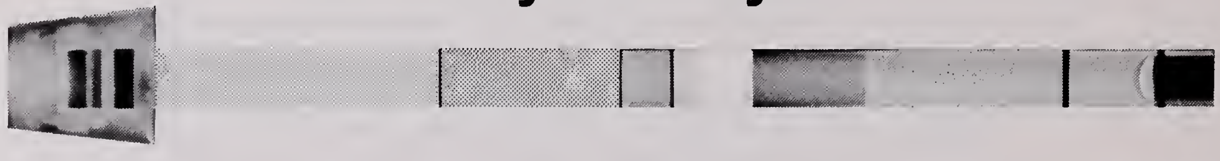

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NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category 1 credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)
3:00 PM — Surgical Rounds
(Every Wednesday and Friday)
4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)
4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)
8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)
7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Feb. 6	City-Wide Radiology Conference on "CT Chest"
Mar. 12	City-Wide Radiology Conference on "NMR"
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

Feb. 12-18	Contemporary Issues in Obstetrics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Mar. 1-2	The Microcomputer Jungle: Impact on Health Care
Mar. 5-6	Annual Cardiology Postgraduate Symposium
Mar. 15	Sports Medicine: Rehabilitation of the Injured Athlete (Westin Crown Center Hotel, Kansas City)
Mar. 15-16	Advanced Trauma Life Support
Mar. 16-17	Midwest Pain Society 8th Annual Meeting: Practical Management of Common Pain Syndromes (Westin Crown Center Hotel, Kansas City)
Mar. 18-25	Review and Update in General Pediatrics and Family Practice (Princess Hotel, Grand Bahamas)
Apr. 5-6	Current Practices in Surgery
Apr. 9-10	Pediatric Emergencies
May 7-8	Total Management of the Acute Myocardial Infarction

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
***Contact:* Mrs. Judi Kramer, Coordinator**

May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

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522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
***Contact:* Felix E. F. Larocca, M.D.**

Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

Feb. 11-18	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Puerto Vallarta, Mex.)
Feb. 24-25	The Long Weekend (Westin Crown Center Hotel)
Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
Contact: Joy W. Barnett, CME Coordinator

Apr. 14	Spring Symposium — Breast Cancer

University of Missouri-Columbia School of Medicine Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: Weldon D. Webb, M.D., Director

Feb. 8-10	Fourth National Conference on Continuous Peritoneal Dialysis (Westin Crown Center, Kansas City)
Feb. 24-26	Organizational Systems: A conference on authority, role and task in working groups
Mar. 16	Preceptor's Day
Mar. 17-18	Family Practice Update
Mar. 22-23	30th Annual Urology Seminar (Westin Crown Center, Kansas City)
Apr. 12-14	Improving Index of Cancer Chemotherapy (Westin Crown Center, Kansas City)
Apr. 17-18	Seventh Annual Primary Pediatrics for the Primary Physician
Apr. 27-28	Third Annual Clinical Conference on Arthritis
May 11-13	Seventh Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
Contact: Loretta Giacoletto, Office of CME

Feb. 9	St. Luke's Clinical Conference (St. Luke's West)
Feb. 11-18	WUMC Annual Clinical Conference (Kona, Hawaii)
Feb. 16-17	Techniques and Technology in Pulmonary Intensive Care
Feb. 25-Mar. 3	Care of the Aging Patient (Hawaiian Islands Cruise)
Mar. 5-May 21	Internal Medicine Review (The Jewish Hospital)
Mar. 16-17	Craniofacial Imaging
Apr. 12-13	Care of the Aging Patient
Apr. 26-27	11th Annual Symposium on Obstetrics and Gynecology
May 3-5	WUMC Alumni Reunion
May 11-12	PNP Update 1984
May 21-25	Diagnostic Interview Schedule Training
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage

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AMERICAN MEDICAL ASSOCIATION
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MSMA Members Receive Physician's Recognition Award

Forty MSMA members qualified for the MSMA-AMA Physician's Recognition Award in November 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in MISSOURI MEDICINE as they are received from the AMA.

M. Nasir Akhter, Columbia
Benjamin I. Albano, Crystal City
Robert A. Bauer, Florissant
Edward F. Berg, St. Louis
John F. Bergmann, St. Louis
Maxwell G. Berry, Kansas City
Peter A. Boyer, Jefferson City
Donald E. DeWitt, Kansas City
Francis D. Dean, Fayette
Rolin B. Duncan, Poplar Bluff
Charles P. Gauthier, Kansas City
Richard W. Gengelbach, Fayette
Henry N. Habib, Kansas City
Duane Q. Hagen, St. Louis
Paull R. Hanson, Chesterfield
Karl L. Keffler, St. Louis
Kenneth R. Kopp, Kansas City
Gong Ten Kuo, Kennett
Azhar Latif, Lexington
David S. Martin, St. Louis
John W. Meyer, Springfield
Frank R. Mohs, St. Louis
Carl M. Myers, Platte City
James S. Nelson, St. Louis
Rita D. Perll, Kansas City
Clarence M. Pickard, Columbia
Efraim L. Reyes, Springfield
Dean R. Rising, Springfield
Vernon J. Roden, St. Louis
Wolfgang P. Schuessler, St. Louis
Charles Silverberg, St. Louis
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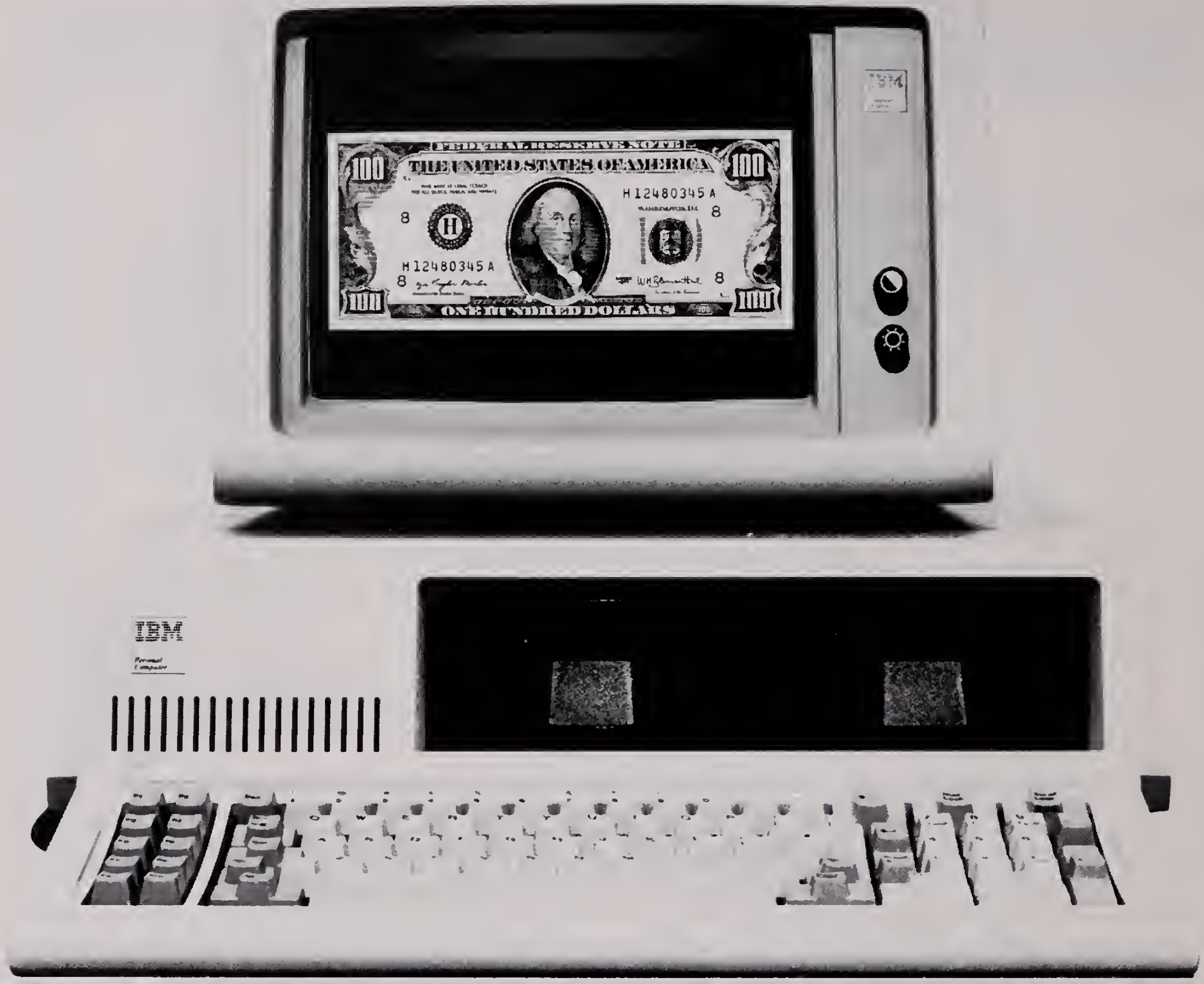

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

Walter Harvey Jacobs, M.D., clinical professor of medicine, has been elected president-elect of the American College of Gastroenterology. Dr. Jacobs will assume the office of president at the organization's annual meeting in Toronto in October.

James J. Mongan, M.D., executive director of the Truman Medical Center, has been appointed adjunct professor in health services administration in the L. P. Cookingham Institute of Public Affairs at the University of Missouri-Kansas City School of Business and Public Administration. From 1979 to 1981, Dr. Mongan was on the White House staff as associate director for Health and Human Services. He also was deputy assistant secretary for health policy in the Department of Health, Education and Welfare from 1977 to 1979.

Marjorie S. Sirridge, M.D., docent and professor of medicine, and *Nicola Y. Katf*, M.D., clinical assistant professor of psychiatry, have been reelected to second three-year terms as board members of The Greater Kansas City Mental Health Foundation.

Richardson K. Noback, M.D., senior docent and professor of medicine, delivered a series of lectures to physicians and medical students in Australia and New Zealand during August and September. Dr. Noback, head of the Section of Geriatrics at Truman Medical Center-East, lectured on several geriatrics subjects and on the docent system of care and education at UMKC.

John H. Renner, M.D., clinical professor of community medicine and family practice, was elected president of the Civic Health Foundation's board of trustees at the board's annual meeting on November 10. Dr. Renner is director of the family practice residency program at St. Mary's Hospital.

John Morrison, M.D., director of maternal and fetal medicine at the University of Mississippi, was a visiting professor of obstetrics and gynecology at Turman Medical Center recently. He spoke on "New Developments in the Treatment of Sickle Cell Disease in Pregnancy and Diabetes Mellitus in Pregnancy."

A committee of community physicians has been formed to develop a physician-author collection for the University's Health Sciences Library. Members are: *John W. Bowser*, M.D., clinical professor of radiology; *William W. Woodward*, M.D., clinical assistant professor; and *Wallace P. McKee*, M.D.

WASHINGTON UNIVERSITY

Joel E. Brown, Ph.D., has been named the first Bernard Becker Research Professor in Ophthalmology at the School of Medicine.

In addition to the professorship in ophthalmology, Dr. Brown serves as professor in the Department of Physiology and Biophysics and the Department of Anatomy and Neurobiology.

The chair in ophthalmological research, which he holds, was created by friends, students, trainees and patients of *Bernard Becker*, M.D., who for 25 years has been professor and head of the Department of Ophthalmology. The endowed chair honors Dr. Becker for his contributions to the science of ophthalmology and his dedication to research. It also provides continued support for the department's internationally recognized programs.

Dr. Brown has been on the faculty at State University of New York at Stony Brook, Vanderbilt University and Massachusetts Institute of Technology. He holds two grants from the National Eye Institute and is widely recognized for his work on the physiology of vertebrate and invertebrate photoreceptors. His major interest is in the mechanisms by which retinal photoreceptors react to light.

For the past several summers, Dr. Brown has pursued his research at the Marine Biological Laboratories in Woods Hole, Mass. He has served on the Visual Sciences Study Section of the National Institutes of Health and as a Councilor of the Society for General Physiology.

Dr. Brown received a doctorate in physiology and master's and bachelor's degrees in electrical engineering from Massachusetts Institute of Technology.

Lee N. Robins, Ph.D., professor of sociology in psychiatry at the School of Medicine since 1968, delivered the prestigious Thomas William Salmon Lectures to The New York Academy of

Medicine on Dec. 1, 1983.

This was the 51st series of the Salmon Lectures. Dr. Robins' presentations were titled "How Population Studies Changed Our Views of Psychiatric Disorder" and "New Findings on Childhood Conduct Problems." She also delivered the second lecture at Radcliffe College in Cambridge, Mass. on November 30. Dr. Robins holds the bachelor's, master's and doctoral degrees from Radcliffe College.

Each year a specialist in psychiatry, neurology or mental hygiene from the United States or abroad is selected to serve as the Salmon Lecturer for the New York Academy of Sciences. The lectures, which advance psychiatry and mental hygiene, are permanent contributions to the field of medicine and usually are published in book form. During the annual lecture series, the academy also awards the prestigious Salmon Medal.

Dr. Robins has been a leader in follow-up studies of children, in studies of drug use by returning veterans and in the development of instruments for assessing mental disorders in the general population. She is principal investigator of the Epidemiological Catchment Area project, which is a study of mental health in the general population, and of the MacArthur Network on Risk and Protective Factors in the Major Mental Disorders. She also directs a training program in psychiatric epidemiology and biostastics.

Her husband, Eli Robins, M.D., Wallace Renard Professor of Psychiatry at the School of Medicine, received the Salmon Medal in 1981.

ST. LOUIS UNIVERSITY

Thomas Hyers, M.D., associate professor, department of internal medicine, has received a $3.6 million grant from the National Heart, Lung and Blood Institute to study Adult Respiratory Distress Syndrome (ARDS). The Specialized Center of Research (SCOR) grant is for a five-year period.

Dr. Hyers is also director of the pulmonary division at the Medical Center.

Between 150,000 to 200,000 people each year in the United States are afflicted by ARDS, and about two thirds of them die as a result of the disease. The research headed by Dr. Hyers will bring together the clinical and basic sciences to study both the cause and treatment for ARDS. St. Louis University is one of five SCOR recipients to investigate ARDS, and findings from all five ARDS sites will be shared and compared in this collaborative effort. The other four sites are University of California-San Diego, Harvard University, University of Texas-San Antonio, and University of Washington-Seattle.

Other principal investigators at the Medical Center are *Robert Webster,* Ph.D., assistant professor, Departments of Internal Medicine and Microbiology; *David Lagunoff,* M.D., chairman, Department of Pathology; *William Longmore,* M.D., professor, Department of Biochemistry; and *Andrew Lonigro,* M.D., associate professor, Departments of Internal Medicine and Pharmacology.

Dr. Hyers is a graduate of Duke University School of Medicine. He was assistant professor of medicine at the University of Colorado Health Sciences Center and head of the pulmonary function laboratory at the Denver Veterans Administration Medical Center before coming to St. Louis University Medical Center in 1982.

Andrew Lechner, Ph.D., assistant professor of physiology, has been awarded a three-year $104,000 grant from the National Heart, Lung and Blood Institute. He also received a $29,000 grant from the American Lung Association.

Dr. Lechner will study the short and long-term effects of malnutrition on lung development. Using pregnant guinea pigs, he will create bouts of malnutrition three weeks before and after birth to determine when permanent, irreversible damage occurs in the lungs of newborn guinea pigs. He believes that malnutrition may induce emphysematous changes which may not emerge until the person is an adult.

UNIVERSITY OF MISSOURI-COLUMBIA

The new Cosmopolitan International Diabetes Center at the University of Missouri-Columbia (UMC) was officially dedicated during ceremonies Thursday, Nov. 10, 1983. The center brings together, in a single location, patient care, professional education and basic and applied research facilities.

Cosmopolitan International, a civic organization dedicated to enriching the lives of others, is primarily responsible for the creation of the new center. In 1977, the organization established a special foundation to raise funds for the center.

Thousands of Cosmopolitans, their spouses and friends, from 100 clubs in the United States, Canada and Mexico, sponsored a variety of activities to raise money to build the center. Located in the UMC Health Sciences Center, the structure, which cost approximately $900,000, is attached to the UMC ophthalmology clinic, itself a new addition.

Approximately 6,000 square feet of the 9,200-square-foot structure's interior is completed. As the demand for space increases, the remaining area will be finished.

Included in the new building is a model kitchen where patients can learn how to prepare meals suitable for persons with diabetes, state-of-the-art examining rooms and other facilities required for a center that brings together members of all the health care professions involved in diabetes management.

School of Medicine faculty *Dr. Richard A. Holmes*, professor of radiology and medicine, and *Dr. Wynn Volkert*, professor of radiology and biochemistry, are among the researchers at the University of Missouri-Columbia (UMC) who have developed a new radioactive drug that someday may make it easier to diagnose brain damage in stroke and seizure victims.

Also working on the new compound have been *Dr. David Troutner* and *Dr. R. Kent Murmann*, professors of chemistry in the UMC College of Arts and Science.

Rights to the substance have been acquired by Amersham International, a major producer of radiopharmaceticals. The firm has agreed to provide nearly $300,000 over the next three years to support additional research on the drug at UMC.

The radiopharmaceutical, which gives different information than the CAT scan, should make it easy to produce X-ray-like images of blood flow inside the brain. Although such images are already possible with positron emission tomography (PET), the necessary equipment is found at only a handful of medical centers and the procedure costs more than $1,500.

The researchers found that combining technetium-99m, a radioactive drug already used to create images of the heart, liver and other organs, combined with propylene amine oxime form a substance that will readily pass through the body's blood-brain barrier.

The drug has been proven safe in initial animal trials.

Nearly 200 alumni from the University of Missouri-Columbia (UMC) School of Medicine attended the 26th Annual Physicians Weekend dinner sponsored by the School, Nov. 4, 1983.

Other activities during the weekend included seminars focusing on such controversial aspects of medicine as the health effects of dioxin and the transmission of AIDS.

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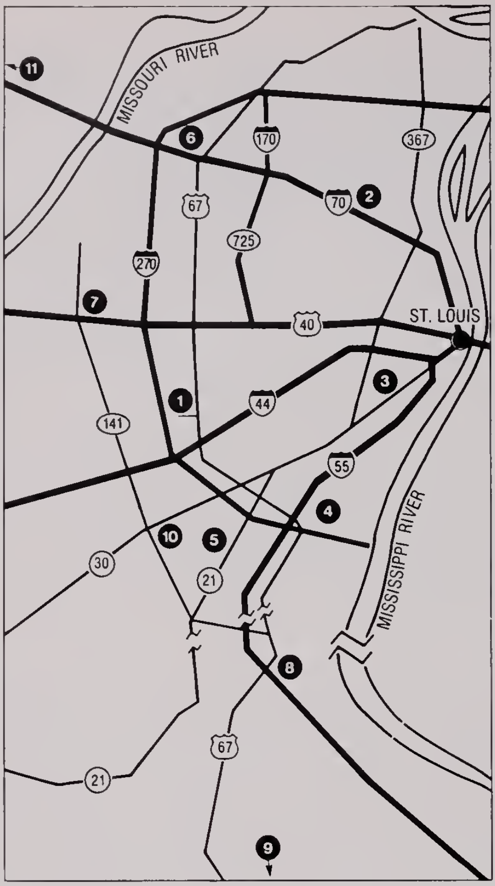

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1-937-8613

❾ **FARMINGTON**
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Farmington, MO 63640
1-756-6418

❿ **FENTON**
#30 Western Plaza
Fenton, MO 63026
343-9710
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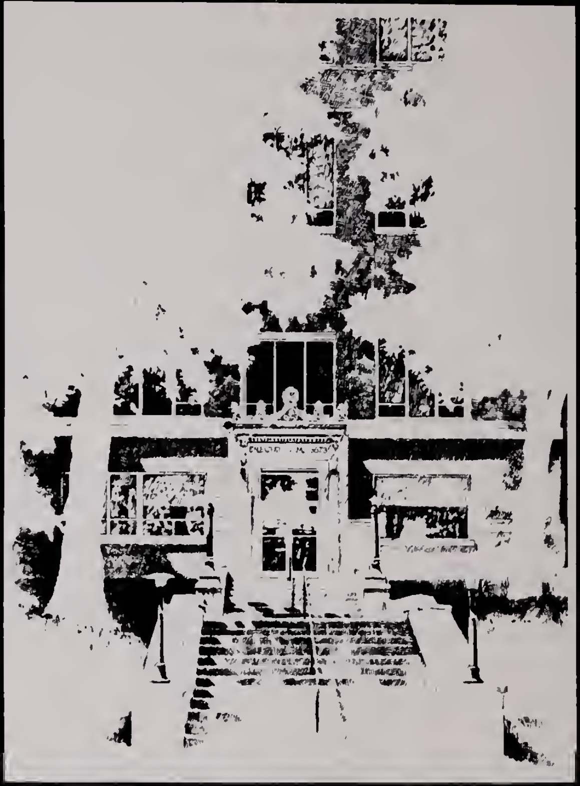

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Introducing Our New MSMA Members

David M. Baker, M.D., 440 S. Market, Springfield 65806, has become a member of Greene County Medical Society. Dr. Baker is a native of Camden, N.J., received his preliminary education at Washington and Lee University and his M.D. degree at Temple University in 1963. He specializes in family practice.

John T. Blair, M.D., P.O. Box 189, Dexter 63841, has become a member of SEMO County Medical Society. Dr. Blair is a native of Harrisburg, Ill., received his preliminary education at Southern Illinois University and his M.D. degree at Southern Illinois University in 1977. He specializes in family practice.

Scott S. Brown, M.D., 902 Edmond St., St. Joseph 64502 has become a member of Buchanan County Medical Society. Dr. Brown is a native of Topeka, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1978. He specializes in nephrology and internal medicine.

Joseph L. Caldwell, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Caldwell is a native of Blytheville, Ark., received his preliminary education at Arkansas State University and his M.D. degree at the University of Arkansas in 1966. He specializes in allergy and clinical immunology.

Sidney G. Christiansen, M.D., 5301 Faraon, St. Joseph 64506, has become a member of Buchanan County Medical Society. Dr. Christiansen is a native of Minot, N.D., received his preliminary education at Washington College and his M.D. degree at California University in 1973. He specializes in otorhinolaryngology and neck surgery.

James A. Conroy, M.D., Methodist Medical Center, Industrial Medical Center, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Conroy is a native of Cheyenne, Wyo., received his preliminary education at the University of Wyoming and his M.D. degree at Northwestern University in 1972. He specializes in psychiatry and is in general practice.

Chris W. Craemer, M.D., 6601 Rockhill Rd., Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Craemer is a native of Independence, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1980. He specializes in family practice.

Paul H. Gibson, M.D., 11133 Dunn Rd., St. Louis 63136, has become a member of St. Louis Metropolitan Medical Society. Dr. Gibson is a native of Seattle, Wash., received his preliminary education at the University of Washington and his M.D. degree at St. Louis University in 1976. He specializes in internal medicine.

Mark E. Gordon, M.D., 2029 Burlington, North Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Gordon is a native of Wichita, Kan., received his preliminary education at Southwestern College and his M.D. degree at Michigan State University in 1978. He specializes in internal medicine.

Michael D. Hoeman, M.D., 1443 N. Robberson, Suite 805, Springfield 65802, has become a member of Greene County Medical Society. Dr. Hoeman is a native of Washington (Mo.), received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in internal medicine.

Khalid I. Khan, M.D., 937 Broadway, Cape Girardeau 63701, has become a member of Cape Girardeau County Medical Society. Dr. Khan is a native of Pakistan, received his preliminary education at C. B. Sir Syed College and his M.D. degree at Khyber Medical College in 1975. He specializes in pulmonary and internal medicine.

Howard S. Mahler, M.D., 1420 Grattan, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Mahler is a native of Brooklyn, N.Y., received his preliminary education at the State University of New York and his M.D. degree at the Medical College of Wisconsin in 1979. He specializes in psychiatry.

Scott A. Martin, M.D., 263 A. Lamp and Lantern Village, Chesterfield 63019, has become a member of St. Louis Metropolitan Medical Society. Dr. Martin is a native of Pearisburg, Va., received his preliminary education at Clemson University and his M.D. degree at Duke University in 1973. He specializes in anatomic pathology.

William D. Miller, M.D., Hwy. 116 W., Box 519, Dexter 63841, has become a member of SEMO County Medical Society. Dr. Miller is a native of Winnipeg, Canada, received his preliminary education at the University of Manitoba and his M.D. degree at the University of Manitoba in 1980. He is in general practice.

Patrick D. Mullen, M.D., Mercy Professional Bldg., P.O. Box 32, Mansfield 65704, has become a member of South Central Counties Medical Society. Dr. Mullen is a native of Nebraska City, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1974. He specializes in general surgery and hand surgery.

Dean L. Mundhenke, M.D., 220 W, R.D. Mize Rd., Blue Springs 64105, has become a member of Jackson County Medical Society. Dr. Mundhenke is a native of Sioux Falls, S.D., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1978. He specializes in internal medicine.

Howard I. Novick, M.D., P.O. Box 519, Dexter 63841, has become a member of SEMO County Medical Society. Dr. Novick is a native of Quebec, Canada, received his preliminary education at McGill University and his M.D. degree at McGill University in 1980. He is in general practice.

Anthony G. Poole, M.D., 1012 N. Main, Sikeston 63801, has become a member of SEMO County Medical Society. Dr. Poole is a native of Sikeston, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in obstetrics and gynecology.

David J. Prelutsky, M.D., 1212 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Prelutsky is a native of St. Louis, received his preliminary education at Northwestern University and his M.D. degree at St. Louis University in 1979. He specializes in internal medicine.

Rajagopal Rangineni, M.D., 902 Edmond, St. Joseph 64502, has become a member of Buchanan County Medical Society. Dr. Rangineni is a native of India, received his preliminary education at New Severne College in Hyderbad and his M.D. degree at Kakatiya Medical College in 1974. He specializes in oncology and internal medicine.

Paul J. Ritter, M.D., 6150 Oakland Ave., St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Ritter is a native of St. Louis, received his preliminary education at Westminster College and his M.D. degree at St. Louis University in 1954. He specializes in obstetrics and gynecology.

Clifford B. Saper, M.D., Washington University School of Medicine, 660 S. Euclid, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Saper is a native of Chicago, Ill., received his preliminary education at the University of Illinois and his M.D. degree at Washington University in 1972. He specializes in neurology.

Chris M. Sholer, M.D., 22 Kingsbury Pl., St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Sholer is a native of Oklahoma City, Okla., received his preliminary education at the University of New Mexico and his M.D. degree at the University of New Mexico in 1977. He specializes in internal medicine.

Kenton L. Stringer, M.D., 550 Hudson, Aurora 65605, has become a member of Ozarks Medical Society. Dr. Stringer is a native of Columbia, received his preliminary education at Southwest Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in family practice.

Bradley H. Sullivan, M.D., 6420 Prospect, Suite T-301, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Sullivan is a native of Kansas City, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1979. He specializes in obstetrics and gynecology.

Robert J. Takacs, M.D., Suite 300-751 E. 63rd, Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Takacs is a native of Cleveland, Ohio, received his preliminary education at Case Western Reserve University and his M.D. degree at Case Western Reserve University in 1978. He specializes in orthopaedic surgery.

Supranee Tantana, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Tantana is a native of Thailand, received her preliminary education at Mahidol University and her M.D. degree at the Ramathiobodi School of Medicine in 1972. She specializes in diagnostic radiology.

Stephen C. Tines, M.D., Methodist Medical Center, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Tines is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1979. He specializes in diagnostic radiology.

Charles L. Warrender, M.D., 2631 Cunningham, Suite A, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Warrender is a native of Wichita, Kan., received his preliminary education at Wichita University and his M.D. degree at the University of Kansas in 1960. He specializes in psychiatry.

Jerry C. Wible, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Wible is a native of Robinson, Ill., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1973. He specializes in otolaryngology.

Paul A. Williams, M.D., Truman Medical Center-East, Little Blue and Lee's Summit Rd., Rt. 17, Kansas City 64139, has become a member of Jackson County Medical Society. Dr. Williams is a native of Rensselaer, Ind., received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1958. He specializes in family practice.

Russell K. L. Won, M.D., 10010 Kennerly Rd., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Won is a native of Hawaii, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Kansas City in 1980. He is in general practice.

David H. Wuellner, M.D., 1718 S. Ingram Ave., Sedalia 65301, has become a member of Pettis County Medical Society. Dr. Wuellner is a native of Alton, Ill., received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1978. He specializes in internal medicine and nephrology.

New Student Members

St. Louis University

Richard V. Anderson
Kelli R. Arntzen
George A. Balella, Jr.
Jeffrey H. Barton
Conrad S. Belnap
Douglas D. Berglund
Richard A. Bethke
Michael E. Blatner
Mark E. Bradley
James M. Britt
William A. Brombach
John Bry
Robert F. Butler
Bert C. Callahan
Christopher M. Callahan
Miguel E. Cannon
Jeffrey D. Clement
Angela M. Colarelli
Richard V. Davis
John DeBin
Tracy B. Dill
Frank F. Ditto, III
John R. Eckardt
Pamela J. Edwards
Christopher W. Felton
Kerry S. Fisher
Robert E. Fleming
Tom Fleming
Peter Fonseca
Robert K. Gaughan
Jacquelyn Hall
Andrew J. Heritch
Keith L. Hiatt
Brian A. Higgins
W. Gary Hoffman
Mark C. Hofmann
William J. Hogan, Jr.
Kyle D. Holmes
Bryan N. Johnson
Mark C. Johnson
Anthony Joseph
David M. Kane
Jerry J. Kartzinel
John J. Keizur
Don O. Kikkawa
Charles E. N. Kinsella
Alain Lambert
James R. Landgraf
Frank A. Larson
Craig Lawson
Gerard J. Mainar
Debra L. McAllister
Sean O. McMenomey
Kenneth T. Minami
Jan Mirowitz
Joanne C. Nelson
Paul A. Oberle
Richard K. O'Keefe
David S. Peizner
Matt Poage
Dimitri Pyrros
Vinay N. Reddy
Susan M. Rizzo
Michael Roach
Audrey K. Rocco
Anthony A. Romeo
Mark S. Schickendantz
Margaret Schmandt
Randall J. Severance
Paul J. Sheya
Eric J. Sutphen
Joseph D. Sweeney
Timothy M. Tolan
Dana Towle
Rob Trousdale
Kathy A. Trumbull
John M. Vassallo
John J. Ververis
Timothy E. Vierling
Daniel L. Wascher
Lawerence A. Weinberg
Robert J. Wendland
Brian Wiethop
Tracy G. Williams
John B. Wood, III
Joseph H. L. Worischeck
Eric E. Young

University of Missouri-Columbia

Karen M. Albers
Brent A. Bader
Adam H. Balin
Alan Bank
Todd F. Baumgartner
Jeff Boyd
Jeffrey A. Bredemann
Michael S. Brown
Jesse W. Cheng
Kenneth Chinsky
Matthew J. Concannon
Sharon Conley
Daniel J. Dire
Raymond J. Enzenauer
M. Gerald Garoutte
Mark Grant
Tomas Hindjosa, Jr.
Irl Hirsch
Mana Hobson
David N. Holleman

New Student Members *(Continued)*

Robijn K. Hornstra
Roy Kohler
Katherine M. Kostal
Nancy L. Lewis
Jeffrey A. Lverding
R. Curtis Mace
Glynda V. Maxam
Charles V. Moylan
Michael P. Nogalski
Sharon S. Nutkiewicz
Terrance A. Otto
Elizabeth Peters
Paul E. Provaznik
James S. Scott
Rachel H. C. Shu
Terry J. Sites
Donna L. Springs
Robert S. Strobach
Susan M. Strumpf
Anthony Sudekum
Karina K. Uldall
Mark Vajaranant
Richard P. Valuck, Jr.
Richard Vaughn
John K. Williams
Susan E. Winkelmann
Sister Amelia Zepedo
Beth Zimmer

University of Missouri-Kansas City

Troy A. Burns
Joe Cates
Astra Chapman
Geeta K. Dash
Nancy E. Ebbesmeyer
Douglas S. Fitzwater
Grant Gerner
Joshua S. Glaser
Holly L. Hales
Mary V. Hastings
Thomas F. Hastings
Mary A. Jackson
Michael E. Joseph
James Kline
David M. Kragel
Darla K. Liles
Mary MacNaughton
Victoria L. Martin
Greg D. Mears
Olevia Mitchem
Brad Moseley
Lou Ojascastro
Michelle Perez
Charlene M. Prather
Stella G. Quiason
John F. Penrose
Debra R. Tegeler
G. Andrew Sulit
Inez M. Tinsley
Carolyn Wait
John A. Yuhas
Jay Zwibelman

Washington University

Steven R. Allen
Allan D. Anderson
Steven L. Anolik
Michael Apkon
Robert L. Bennett, Jr.
Vera E. Bennett
Jeffrey B. Bennie
Lawrence R. Bergman
Laura J. Bierut
Christopher K. Bodine
Robert Bredt
Gregory W. Buck
Carlos Buzego
Michelle R. Butzer
Donald P. Carter
Michael L. Cher
Gene Z. N. Chido
Michael R. Clark
James M. Close
Stephen P. Cragle
Charles M. Crowder
Steven A. Curran
Andy Dean
Brian Dieckgraefe
James W. Donnelly
James R. Duncan
Daniel M. Dye
Rodney J. Folz
Robert C. Fuhlbrigge
Patrick Griffith
Andrew Hing
Dorian E. Jankowski
Michael W. J. Willett
David A. Johnson
Douglas J. Johnson
Jeffrey B. Judd
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Barry J. Linder
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Susan Little
Sheldon E. Litwin
Margaret R. MacDonald
Viken R. Matossian
Martin M. Matzuk
Lyn S. McDivitt
Susan E. McManis
Cristopher A. Meyer
Dinu Mistry
Michael C. Molleston
Ellen A. Morrison
Robert Obeid
Christopher J. Phillips
Forbes D. Porter
John C. Powell
William B. Rockwell
Laura A. Rokusek
Pejman Salimpour
Patrick Sandiford
Larry D. Schertz
Norman D. Schmidt
Debra K. Schuster
Biu Schwab, III
Edwin K. Silverman
Neil Silverman
David Standaert
Dean W. Steele
Eric E. Stevens
Mitchell B. Strominger
L. Steven Szeles
David Sweetser
Peter L. Smith
Grace M. Tannin
Alan Tenaglia
Robert W. Tolan, Jr.
Ann M. Vannier
Yasmira I. Watson
Paul S. Weisman
David W. Whiting
Jordan Zuckermen

A mind is like a muscle. Unstretched, it cramps and withers and decays.
—W. E. Wooldridge
Duke of Pearson Creek

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in Brief

A summary of AMA, medical & health news

American Medical Association / 535 North Dearborn Street / Chicago, Illinois 60610 / Phone (312) 527-1500 / TWX 910-221-0300

NEARLY 100 MEDICAL societies are encouraging their members to provide free or reduced-fee medical care for patients who have lost health coverage because of unemployment or reductions in Medicaid and disability programs. More than 80 of these state, county and national specialty societies have set up formal programs to help victims of the recession, according to an AMA study. The remaining societies have adopted resolutions urging members to continue providing necessary care regardless of the patient's ability to pay. Some societies have distributed a model letter that the AMA prepared for physicians to give to their patients. A list with a brief description of local efforts is available from the Department of Health Care Coalitions, AMA Headquarters.

TOOLS FOR ORGANIZING medical student and resident physician sections in state medical societies have been developed by the AMA Department of Medical Student Services and the Department of Resident Physician Services. Many states are developing and strengthening medical student and resident physician sections. Studies indicate that physicians who become involved in organized medicine early in their careers are more likely to continue participating after they have settled into practice. Slide and tape presentations, and guides for developing student and resident physician sections at the state level, may be obtained from either the department of MSS or the Department of RPS, AMA Headquarters.

THE PUBLIC RATED physicians more ethical than lawyers, business executives and members of Congress in a Gallup Poll conducted for the *Wall Street Journal*. Some 53% of the public rated the honesty and ethical standards of medical doctors very high or high; 35% rated them average; and 10% rated them low. Lawyers were rated very high or high by 24%; average by 43%; low by 27%. Only 18% rated business executives very high or high, 55% rated them average, and 20% rated them low. Congressmen were ranked very high or high by only 14%, while 43% ranked them average and 38% ranked them low.

PHYSICIANS ARE ACTIVE in more than half of the nation's 123 operational health care coalitions. The medical profession is the second largest group represented in the coalitions, after business, according to a survey by the Dunlop Group, an informal gathering of six national organizations that has met periodically since June, 1981. Business is represented in 113 coalitions, 25 of which are composed exclusively of business people. Medicine is represented in 67 coalitions. Hospitals participate in 61 coalitions, and commercial insurance companies are involved in 37. Blue Cross and Blue Shield representatives participate in 28 coalitions, organized labor participates in 22, and government — at the city, county or state level — participates in 40.

THE PERCENTAGE of physicians who support advertisement of fees in newspapers or on television or radio has risen from 8% in 1978 to 17% in 1983, an AMA survey reveals. Physician advertising has been noticed by 28% of Americans, according to the survey. Awareness of physician advertising is highest among high income earners (39%) and lowest among those who are 65 years of age and older (17%). The public's awareness of physician advertising has not increased in the last year.

THE WORLD MEDICAL ASSOCIATION recommended that boxing be banned. "Unlike other sports, the basic intent of boxing is to produce bodily harm. . . . It can result in death and produces an alarming incidence of chronic brain injury," said the WMA. Until a boxing ban can be implemented, the WMA suggested that national medical associations encourage preventive measures to minimize the incidence of injuries. Such measures would include establishing a boxers registry and allowing ringside physicians to stop a bout if necessary.

THE AMA EDUCATION and Research Foundation awarded Rock Sleyster Scholarships of $2,000 each to 25 medical students with a demonstrated interest in psychiatry. The scholarship is named for the late Rock Sleyster, MD, who was AMA president in 1939-40.

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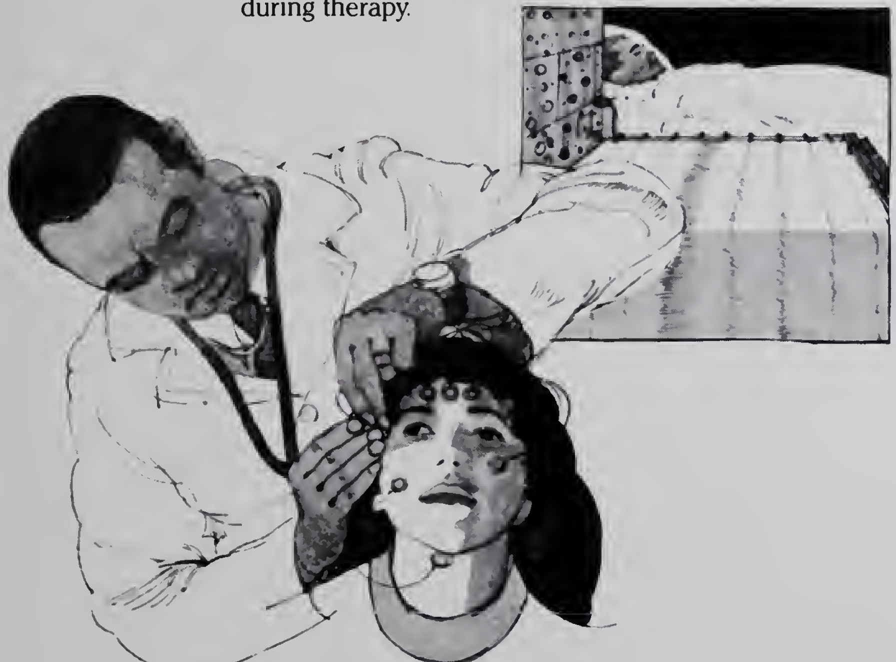

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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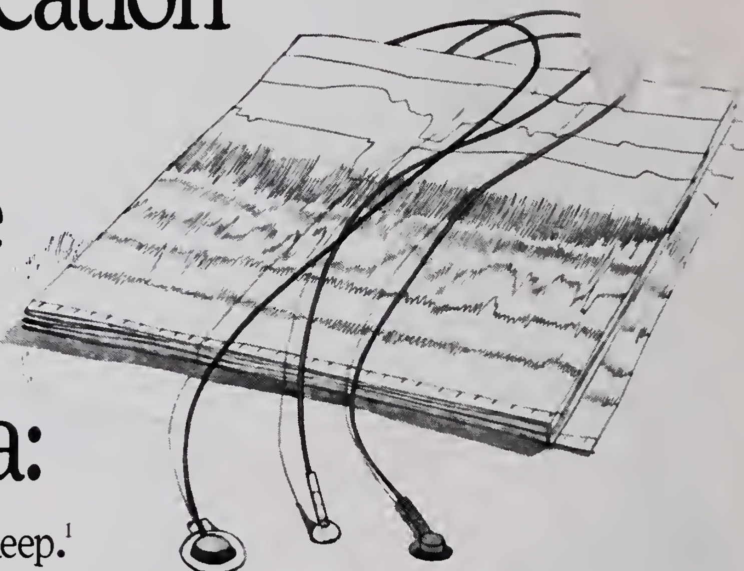

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STACKS

Missouri Medicine

Vol. 81, No. 2 (ISSN 0026-6620) February, 1984

Preliminary Programs
MSMA and AUXILIARY

1984 ANNUAL CONVENTIONS

March 29-April 1, 1984

Marriott's Pavilion Hotel

St. Louis

Extra-Adrenal Aortic Sympathetic Paraganglioma and Renal Artery Stenosis

Case Report

Simple Vulvectomy in Modern Gynecology

MSMA Progress Notes

Sixth BENEFIT AUCTION for the MSMF and AMA-ERF

FEB 28 1984

MISSOURI STATE MEDICAL ASSOCIATION

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is one million dollars enough?

Does a one million dollar limit to your professional liability coverage protect you enough? Consider that in the last few years Missouri malpractice claimants have received awards or settlements as large as $4,000,000. And $6,900,000. And $7,300,000. The facts every physician must recognize are that multi-million dollar judgements are no longer rare, and a one million dollar limit may no longer be enough.

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PROGRESS NOTES

missouri state medical association

FEBRUARY 1984

MSMA Supplies New PSAs To Radio, TV

How the public views the medical profession influences how effective individual physicians can be with their own patients and practice. Realizing this, the Missouri State Medical Association regularly supplies the state's media with public service announcements (PSAs) on health topics of concern to the general public.

This month, four more radio PSAs were distributed to 150 Missouri radio stations. The 30-second spots featured information on pink eye, vitamins, posture, and decreasing the risk of heart attacks.

In addition, three television PSAs are also scheduled to be released this month. This year's television PSAs are a 30-second spot on teaching children not to talk with strangers, a 30-second spot on patient medication instructions, and a 10-second spot on drinking and driving.

Each of these three spots, tagged with the MSMA name and seal, will be distributed to each of Missouri's 24 television stations. Last year, MSMA television PSAs received over $85,000 in free air time.

DRG Lecture At Convention

James M. Todd, M.D., AMA Trustee, will be one of the many outstanding guest speakers at the MSMA's 126th Annual Convention, March 29 - April 1 at the St. Louis Marriott's Pavilion Hotel. Dr. Todd will address the MSMA House of Delegates on "The DRG Experience in New Jersey," at 9:30 a.m., Friday, March 30.

Compromises Sought

Senate Moves Slowly on Malpractice Bills

During recent Missouri Senate committee hearings, four bills dealing with professional liability (malpractice) insurance each received rather rough receptions.

Representatives from malpractice insurers, the medical profession, hospitals and the Missouri Division of Insurance testified that the bills were a beginning in the attempt to solve the skyrocketing costs of malpractice — and, hence, a start in controlling the rising costs of health care. Despite the supportive testimony, Senate committee members were difficult to convince.

Among the Senators' comments were the following:

1. "Why should medicine be treated with special favor in tort statutes?"
2. "The way to reduce malpractice claims and awards is for doctors to stop committing malpractice." (Police the profession better.)
3. "Why should patients who are harmed by malpractice be limited in their suits when they are not limited in other areas?"
4. "The cost of medical malpractice insurance is not so high when compared to the incomes of physicians."
5. "Rather than blame malpractice premiums for increasing the cost of health care, doctors and hospitals should reduce their excessive charges."

Discussions are continuing with Committee members to see if compromise measures might be worked out.

In other legislative matters, Right-to-Life, the Catholic Conference and handicap agency representatives were on hand to support SB 414, dealing with the care of handicapped infants. The MSMA offered testimony that current law defines "neglect" in a manner that makes the new language unnecessary. MSMA also testified that recent Federal regulations provide additional safeguards for such infants. Along with the bill, the Human Resources Committee is also considering an amendment supported by MSMA.

A large crowd of physician assistants turned out to support SB 417, which would provide for the registration of P.A.s in Missouri. The MSMA, Nurse Association and Osteopathic Physician Association opposed the measure on the grounds it is not necessary.

May 15-19

How To Improve Your Practice

The Missouri State Medical Association has announced the scheduling of two sets of practice management workshops. The workshops are divided into a series of half-day workshops and one full-day workshop.

The workshops will be held May 15-16 at the Holiday Inn Holidome in Columbia, and May 17-19 at the Kings Inn in St. Louis. The half-day workshops scheduled for each location are *Practice Development*, *Better Collections*, and *Reception and Patient Flow*. There will also be a full-day workshop on May 19 in St. Louis on *Computers in Medical Practice*.

More information and registration forms may be obtained by writing to the MSMA, Box 1028, Jefferson City, MO 65102, or calling 314-636-5151.

New Service for Diabetic Mothers-to-Be

A new counseling service for women with diabetes who are considering pregnancy is being made available through the Missouri Division of Health-Diabetes Control Program. This pre-pregnancy counseling was begun as a result of the high perinatal mortality rate noted to mothers with diabetes. The perinatal mortality rate in infants of diabetic mothers is two-and-a-half times greater (38.5 deaths/1,000 live births and deaths) than in all pregnancies (15.0/1,000).

The service is available without charge at 18 local health units. Deborah Markenson, Coordinator, can be contacted to learn more about the project and the location of the nearest counseling center. Call toll free: 1-800-392-6226, or write the Missouri Division of Health-Diabetes Control Program, P.O. Box 570, Jefferson City, MO 65102.

★ Tip of ★ the Month

This month's tip comes from Brenda H. Meeks, Timberlake Family Practice, Lynchburg, Virginia.

"Our office has hired a high school junior part time to file our charts, lab reports and statement cards. As usual, our paid statement cards are filed separately from the unpaids. Our part-time file clerk frequently files cards in the wrong place, which really hinders us when we add our accounts receivable for the month.

"To help solve this problem, I've folded a bright red label (self-sticking, but removable) over the top of each card with a balance due on it. When we receive payment, the sticker is removed. The labels are not only easily spotted if misfiled; they also cut down on misfiling!"

Copyright, *The Doctor's Office*, 24 W. King St., Lancaster, PA 17603.

Computer & Medicine

Data Base To Expand Soon

The data base of AMA/NET, the nationwide telecommunications network of the AMA, will be expanded in 1984 and beyond. A drug therapy data base is scheduled to go on line this spring. The data base, which will compare the efficacy of different drugs in the treatment of a particular disease, will be unique to AMA/NET.

The Missouri State Medical Association is the distributor of the network to Missouri physicians.

Another proposed data base will help the physician reach a diagnosis of the patient's signs and symptoms. The intention is not to have the computer make the diagnosis, but rather to remind the physician of possible causes of the signs and symptoms that he observes. Computerized decision assistance will be ready for testing in the computer science laboratories of medical schools by mid-1984. Harvard Medical School/Massachusetts General Hospital has agreed to be one of the test sites.

Plans also call for placing a registry of poison control centers on the network this year. The AMA also is studying the feasibility of adding a data base on poison control management. Already on line are five data bases on drugs, disease, medical nomenclature, socioeconomic literature, and clinical literature. A sixth service provides simulated patient encounters for continuing medical education credit.

AMA/NET also provides another service to its users, MED/MAIL. MED/MAIL allows subscribers to send terminal-to-terminal messages to other subscribers, the AMA, and various data bases at a fraction of the cost of long-distance telephone calls. Recent MED/MAIL additions are bulletin boards that announce continuing medical education courses and AMA meetings.

For more information on AMA/NET or a free demonstration, contact Sandra Newman, MSMA, P.O. Box 1028, Jefferson City, MO 65102, or call 314-636-5151.

Survey

Public View of MDs Mixed

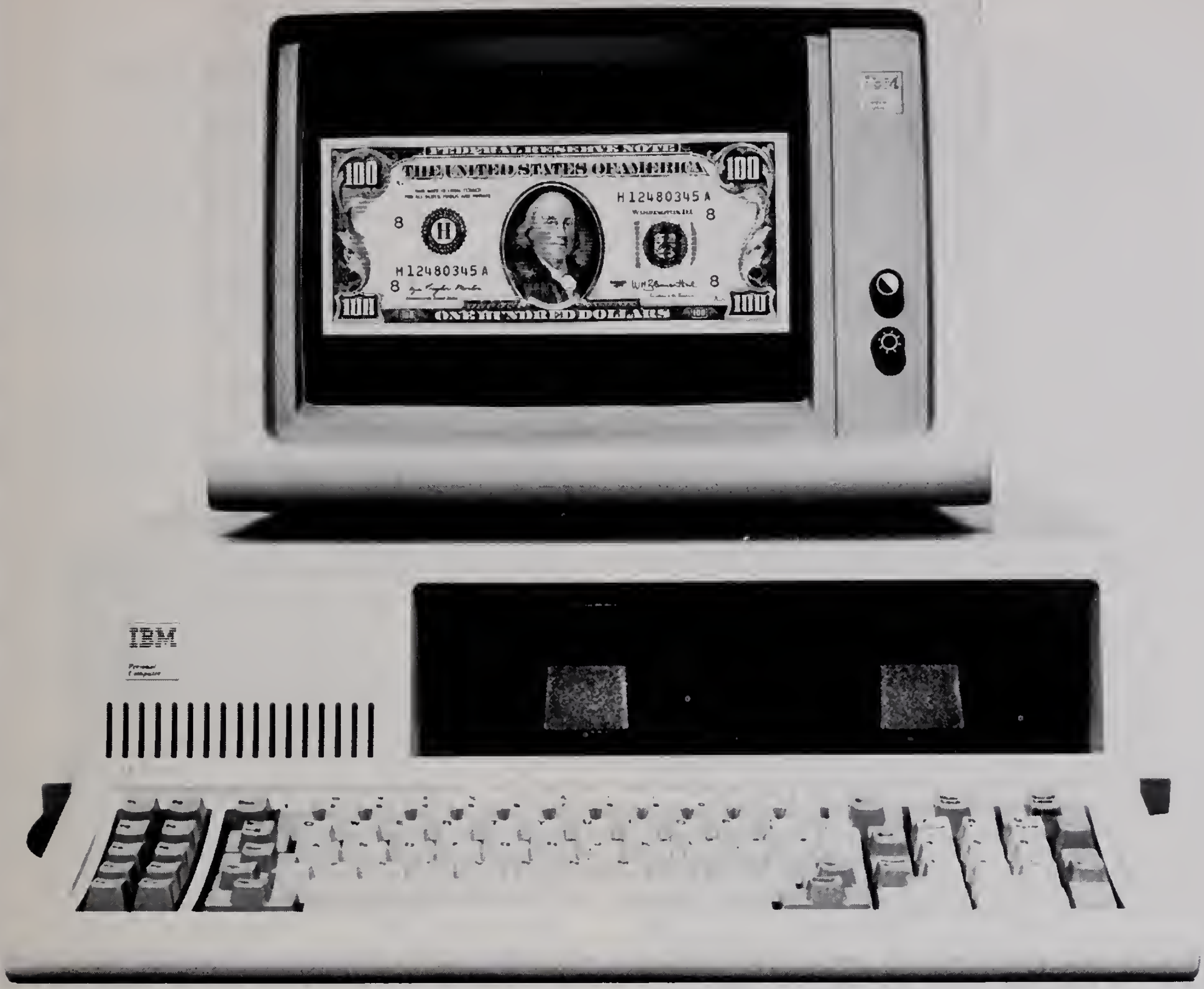
The American public gave the medical profession a very favorable evaluation when asked about physician accessibility, knowledge of medicine, dedication, and humility, according to a public opinion poll conducted by the AMA. The profession's otherwise sterling image is somewhat tarnished, however, in four problem areas concerning fees and incomes, MD/patient interactions, access to care among the poor and elderly, and public faith in physicians.

The report noted a widening gap between the respondents' generally positive image of their own physicians, and their somewhat more negative view of the profession as a whole. In socioeconomic areas, members of the public view their own physicians as fundamentally different from other physicians.

"For reasons yet unknown, the most negative image dimensions are those least related to personal experience and therefore most related to secondary information, primarily from the media," said a report on the 1983 poll that was released by the AMA Department of Survey and Opinion Research.

The poll also noted the public's perception of physicians' income is surprisingly accurate. The average of respondents' estimates of physicians' average earnings was $104,500, only $5,000 more than physicians' actual average net income in 1982 ($99,500). Although the average estimate was very realistic, the responses varied widely. More than half of the 1,503 respondents overestimated or underestimated the correct range. Young respondents were most likely to underestimate, while those in the 65+ age group were most likely to overestimate.

The results suggested that negative public attitudes about physicians' fees and earnings are not caused by an inflated view of their incomes, but rather by the difference between MDs incomes and those of the public at large. The public perceives the average physician as earning $87,670 more per year than the median income for U.S. households ($16,830).



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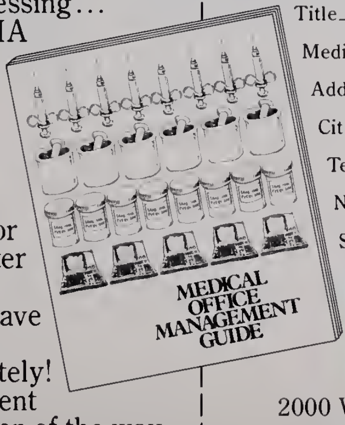

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Editor's Corner

EDITORIAL

Not long ago, a patient born in 1892 was brought to the office with a minor complaint by her daughter. After treating the patient, we left the examination room and then heard the patient declare in a 110 decibel level voice: "He sure don't look like much of a doctor, did he?" Nonagenarians may be forgiven for their straightforwardness since they, like children, are prone to speak unvarnished truths. How do we usually appear to our patients?

Quite often, patients are more impressed with how we look than what we have to say to them — a careful, learned dissertion on their ills more often than not sails right over their heads. But, do we look and act like doctors? This may well have much impact on patient compliance with our management of their medical problems. Among the many courses not in the medical school curriculum is a class on Dress and Demeanor — an important factor in attracting patients, keeping patients and obtaining patients' understanding of their medical problems. The promotional-type health practitioners know the value of appearance in selling their services. Advertising in newspapers, "yellow pages" and on television usually shows a tonsorially perfect practitioner of distinction ready and willing to serve the health needs of one and all. The public equates appearance and ability, talent with deportment.

Of course, we have to know our audience. We learn to shift gears in our manner of dealing with two year olds, four year olds and so on up through the adolescence. Communication with the classical matron calls for deportment of the highest caliber. In early years of practice, we are often thought of as being too young. To some patients, senior physicians must be suspected of slipping a bit — neckties are eyed for telltale gravy stains. How we should dress in our role as doctors probably depends in part on where we are. The family practitioner down in his county seat town in the Ozarks can carry out his role of health professional with a much more casual dress and mannerisms than his medical kin along Kingshighway in St. Louis. Too informal an appearance can be a negative factor — wearing a golf shirt in the office may imply that the person charging the patient for professional services is more of a golfer than a doctor. Long hair and blue jeans can cultivate empathy with some of the teenage crowd, but they can turn away the main line public. A "first name" approach by the physician isn't always well accepted. Patients often do not appreciate the overly casual attitude — they want for their medical problems someone who has gone to a university to learn up-to-date and complex medical care and, thereby, has placed himself in a different status.

Much is being made now about the increasing competition among physicians for patients. Right or wrong, how successful we are depends to a large degree on appearance and attitude. The day after the 91-year-old spoke her piece about us, an 89-year-old allowed as how she thought we were pretty good at doctoring her. Maybe we are learning.

JORDAN W. BURKEY, M.D.
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References:

1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm Experience in 127 patients *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

INDICATIONS AND USAGE: **I. Vasospastic Angina**: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina but available information is not sufficient to predict with confidence the effects of concurrent treatment especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**. Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl in other surgical procedures or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated the physician should be aware of these potential problems and if the patient's condition permits sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema typically associated with arterial vasodilation and not due to left ventricular dysfunction occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness peripheral edema nausea weakness headache and flushing each occurring in about 10% of patients transient hypotension in about 5% palpitation in about 2% and syncope in about 0.5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps nervousness dyspnea nasal and chest congestion, diarrhea constipation inflammation, joint stiffness, shakiness sleep disturbances blurred vision difficulties in balance dermatitis pruritus urticaria, fever, sweating chills and sexual difficulties Very rarely introduction of PROCARDIA therapy was associated with an increase in anginal pain possibly due to associated hypotension

In addition more serious adverse events were observed not readily distinguishable from the natural history of the disease in these patients It remains possible however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients

Laboratory Tests: Rare mild to moderate transient elevations of enzymes such as alkaline phosphatase CPK LDH SGOT and SGPT have been noted and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis possibly due to PROCARDIA therapy has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66) 300 (NDC 0069-2600-72) and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59 to 77 F (15 to 25 C) in the manufacturer's original container

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* Procardia is indicated for the management of:
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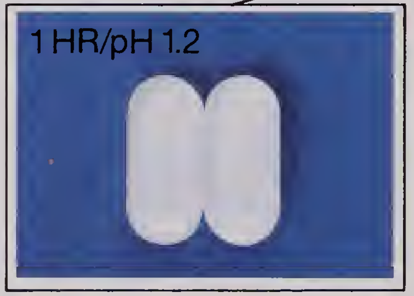

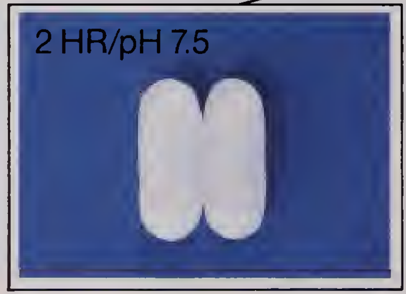

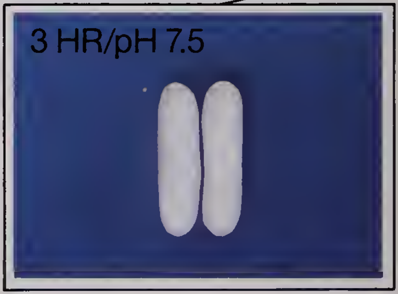

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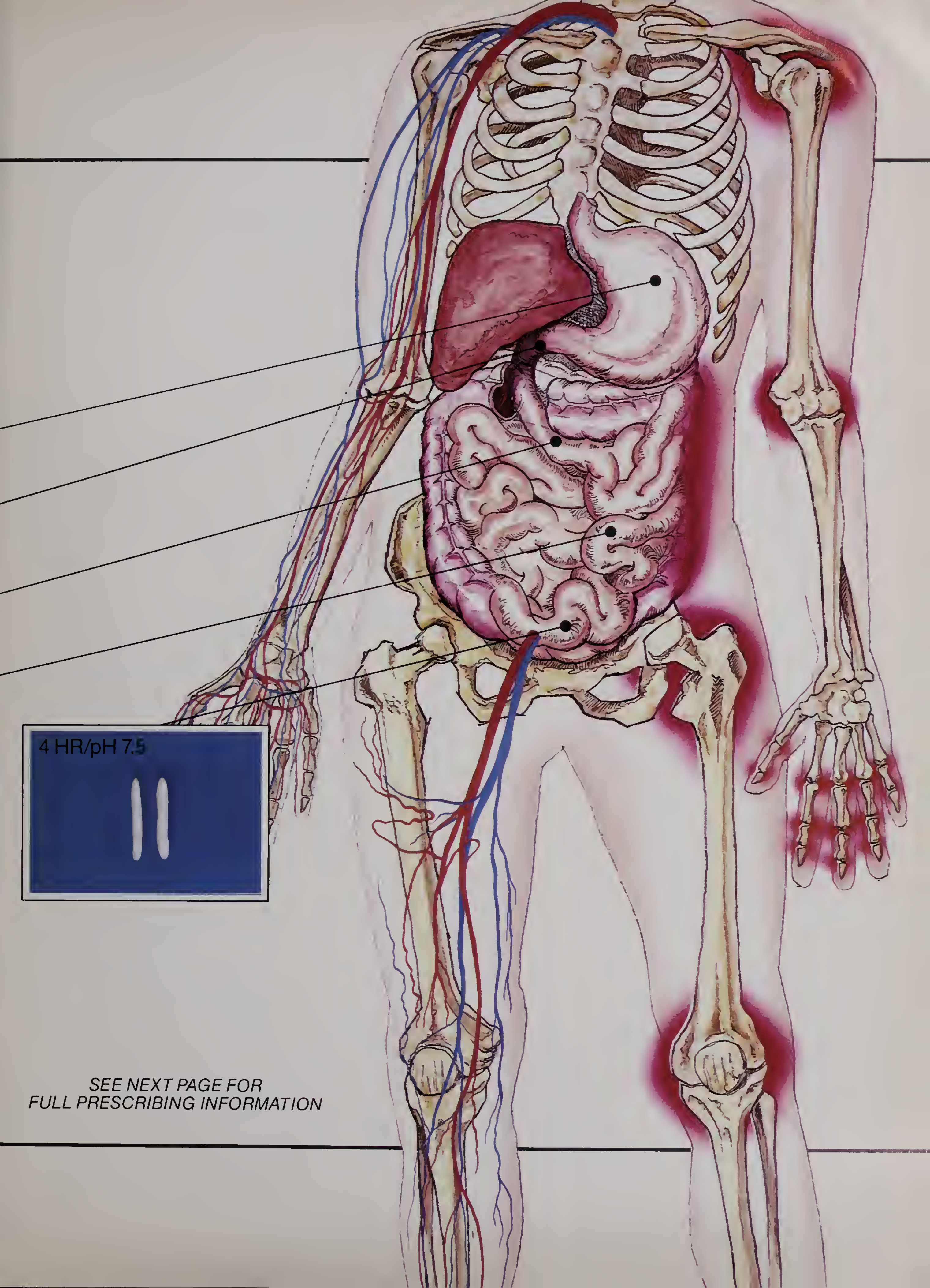

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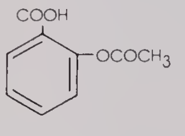

DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release; the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug □ **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. □ Zorprin dissolution is pH-dependent. *In vitro* studies have shown very little aspirin to be released in acidic solutions; whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. □ Bioavailability data for Zorprin have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). □ Studies of *in vivo* prostaglandin levels (PGE2) have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE2 levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE2 levels only through six hours. Zorprin's effect on prostaglandins other than PGE2 has not been determined. □ Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%); salicyluric acid (75%) salicylic phenolic (10%); acyl glucuronides (5%) and gentisic acid (<1%). □ **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have not been established in those rheumatoid arthritic patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). □ In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients. □ In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS). Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. □ Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSAI), the combination cannot be recommended (see **Drug Interactions**). □ **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** □ **CONTRAINDICATIONS**: Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age; it is contraindicated in all children with fever accompanied by dehydration. □ **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended. However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. □ While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid. □ USE IN PREGNANCY: Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant hemostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. □ If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. □ Aspirin should not be taken during the last 3 months of pregnancy. □ **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. □ In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program. □ Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction. □ Salicylates can produce changes in thyroid function tests. □ Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery. □ Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures. □ **Drug Interactions:** (See **WARNINGS**) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. □ Aspirin may enhance the activity of methotrexate and increase its toxicity. □ Sodium excretion produced by spironolactone may be decreased in the presence of salicylates. Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalinizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. □ **Pregnancy Category D.** See **WARNINGS** Section. □ **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. □ **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anticoagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. □ **Gastrointestinal:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding. However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. □ **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. □ **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipoxygenase pathway and the liberation of leukotrienes, *e.g.* slow-reacting substance of anaphylaxis. □ **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. □ **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. □ **Renal**: Aspirin rarely may aggravate chronic kidney disease. □ **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. □ **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism. tinnitus, vertigo, headache, confusion, drowsines, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160* mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdosages occur in infants; salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emitic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. □ (*A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.) □ **DOSAGE & ADMINISTRATION:** *In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact.* □ *Breaking the tablets or disrupting the structure will alter the release profile of the drug.* □ *It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more).* □ **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. □ **Zorprin is not recommended for children below the age of 12.** □ **HOW SUPPLIED: Zorprin Tablets 800 mg;** plain, white capsule-shaped tablets. □ Bottles of 100 Tablets — NDC 0524-0057-01. □ **Caution:** Federal law prohibits dispensing without prescription. □ U.S. Patent No. 4,308,251 □ **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

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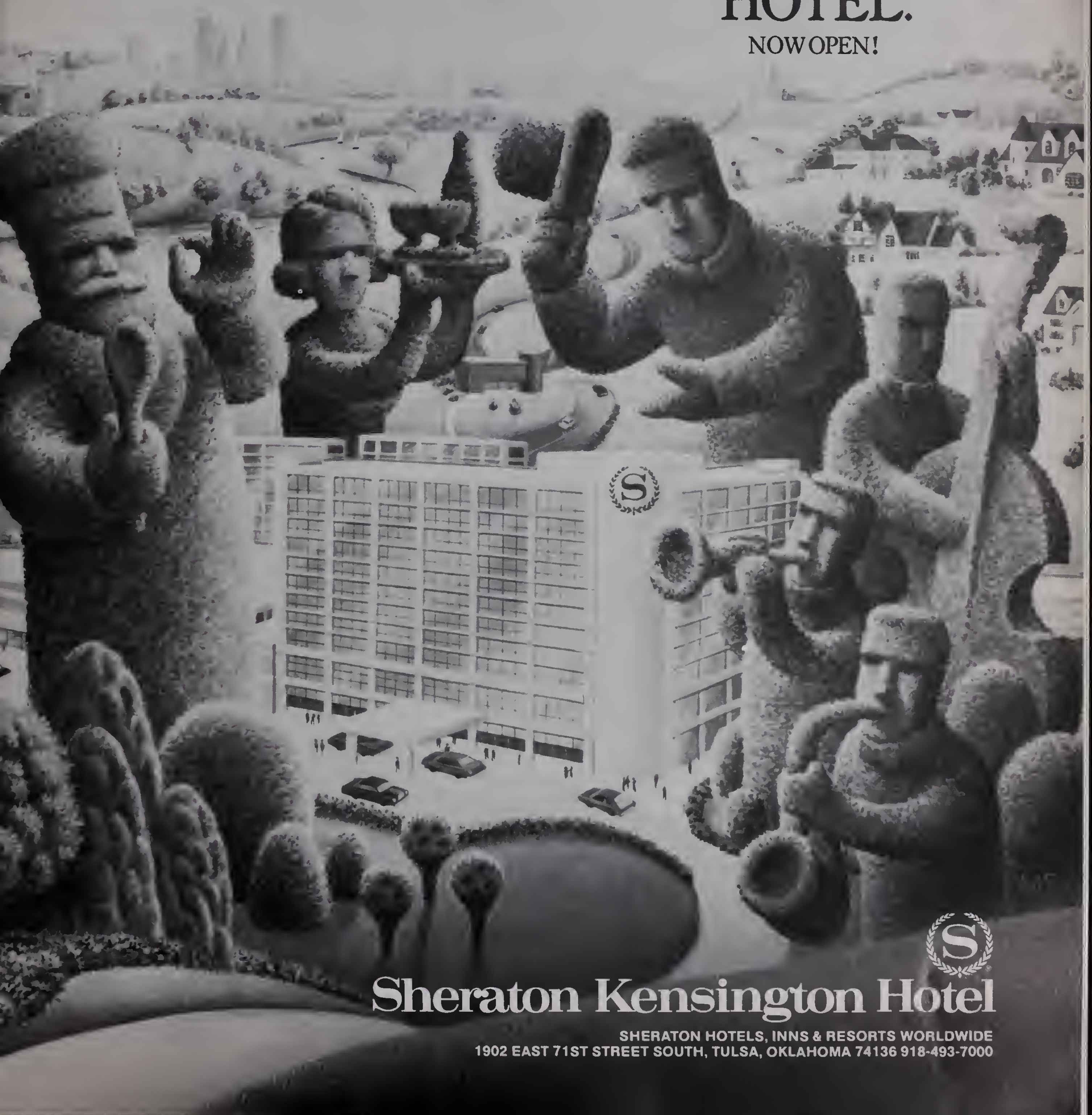

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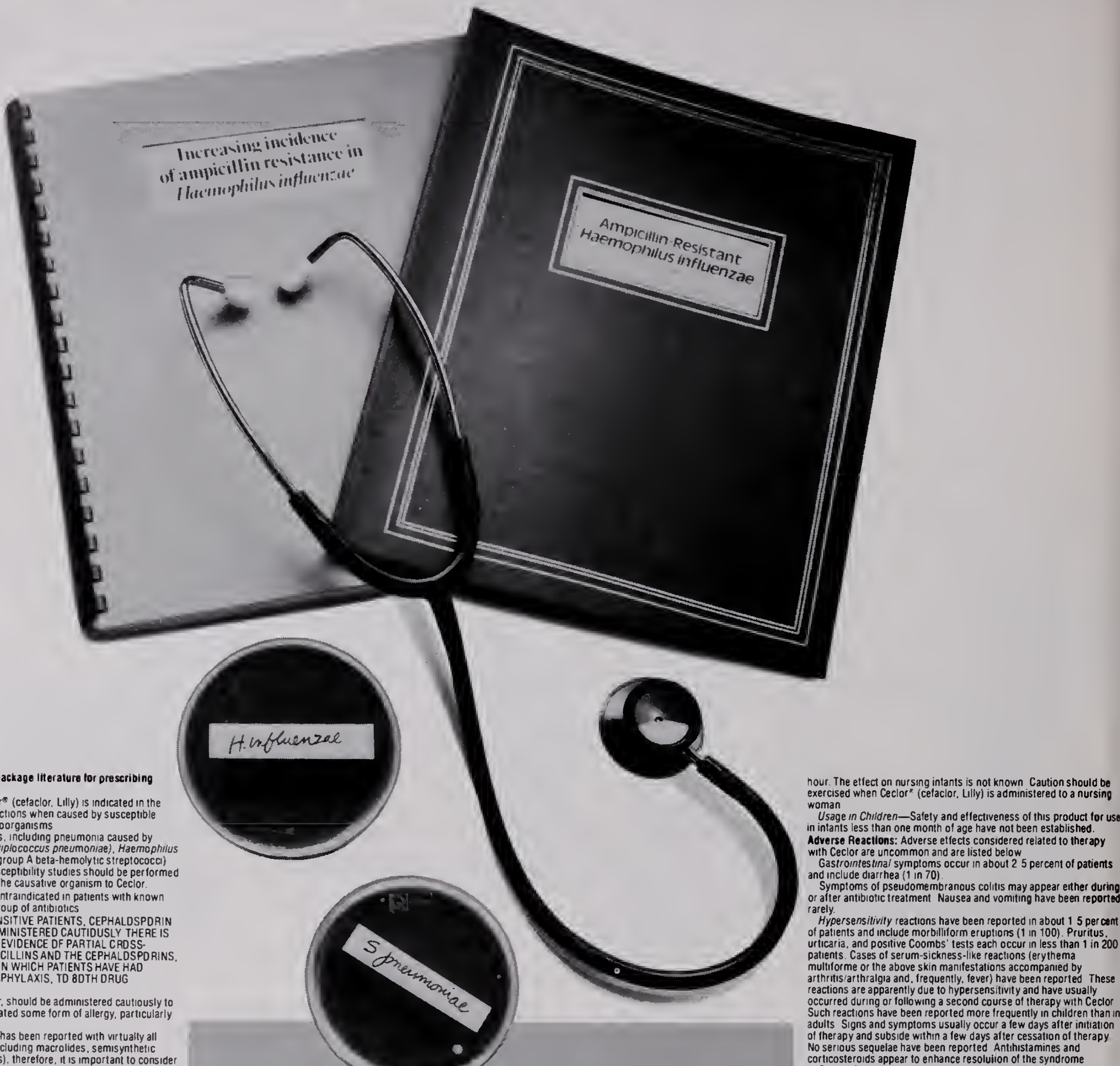
An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin-Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and S *pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour. The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

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* Many authorities attribute acute infectious exacerbation of chronic bronchitis to either S. *pneumoniae* or *H. influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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Missouri Medicine

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C. ALAN SCOTT *and*
W. B. DAVIS, M.D., *Kansas City*

Cholecystoduodenal Fistula With Duodenal Bulb Obstruction

Case Reports (Bouveret's Syndrome)

The reported incidence of mechanical obstruction in the small intestine by gallstones is 1% to 3%. In the over-65 age population, it increases to 20% to 50%. One of the least common sites of obstruction by a gallstone is the duodenal bulb. Two cases of cholecystoduodenal fistula formation and subsequent duodenal bulb obstruction by a cholelith (Bouveret's syndrome) are reported here. The characteristic radiographic findings of this syndrome and a brief review of gallstone ileus are included.

Mr. Scott is a Sixth Year Student at the University of Missouri-Kansas City School of Medicine and Dr. Davis is in the private practice of radiology.

Case # 1 A 75-year-old white woman was admitted to Saint Mary's Hospital in Kansas City on Jan. 22, 1983. She complained of a nine-day history of intermittent nausea and vomiting. Emesis was forceful and occurred one to two hours postprandially. The patient also complained of general malaise. Her past medical history was positive for long-standing hypertension. A review of systems revealed an 8 lb weight loss. Severe unrelenting heartburn and abdominal distension became progressively worse since beginning two weeks previously. Her blood pressure on admission was 140/90; pulse rate, 96; and temperature, 99F (37C). The only pertinent physical finding was diffuse abdominal tenderness that was most pronounced bilaterally in the lower quadrants. Bowel sounds were diminished slightly. Laboratory work showed the following values: white blood cell count, 8.7, with a normal differential; alkaline phosphatase, 435; serum glutamate oxaloacetate transaminase, 19; lactate dehydrogenase, 108. Twenty four-hour urinary amylase and electrolytes were normal.

An abdominal flat plate demonstrated a 3.5 cm concentrically calcified gallstone in the right upper quadrant (Fig. 1-A). Air was easily identified within the biliary tree. An oral cholecystogram was performed and revealed no visualization. On an upper gastrointestinal examination, two small filling defects were present in the antrum (Fig. 1-B). The duodenal bulb contained a large, smooth and round 3.5 cm filling defect.

Contrast material refluxed into the biliary tree, including the cystic duct and intrahepatic bile ducts. Passage of contrast material into the duodenal bulb, descending duodenum and jejuneum was demonstrated. These radiographic findings were consistent with a cholecystoduodenal fistula and an incompletely obstructing gallstone in the duodenal bulb. Antibiotic therapy was started as prophylaxis. At surgery, the preoperative diagnosis was confirmed. An enterolithotomy, cholecystectomy and fistula repair were performed and a 6 cm x 3 cm calculus was removed. The patient made an uneventful recovery.

Case # 2 A 78-year-old white woman was admitted to Saint Mary's Hospital's emergency room complaining of nausea and right upper quadrant pain.

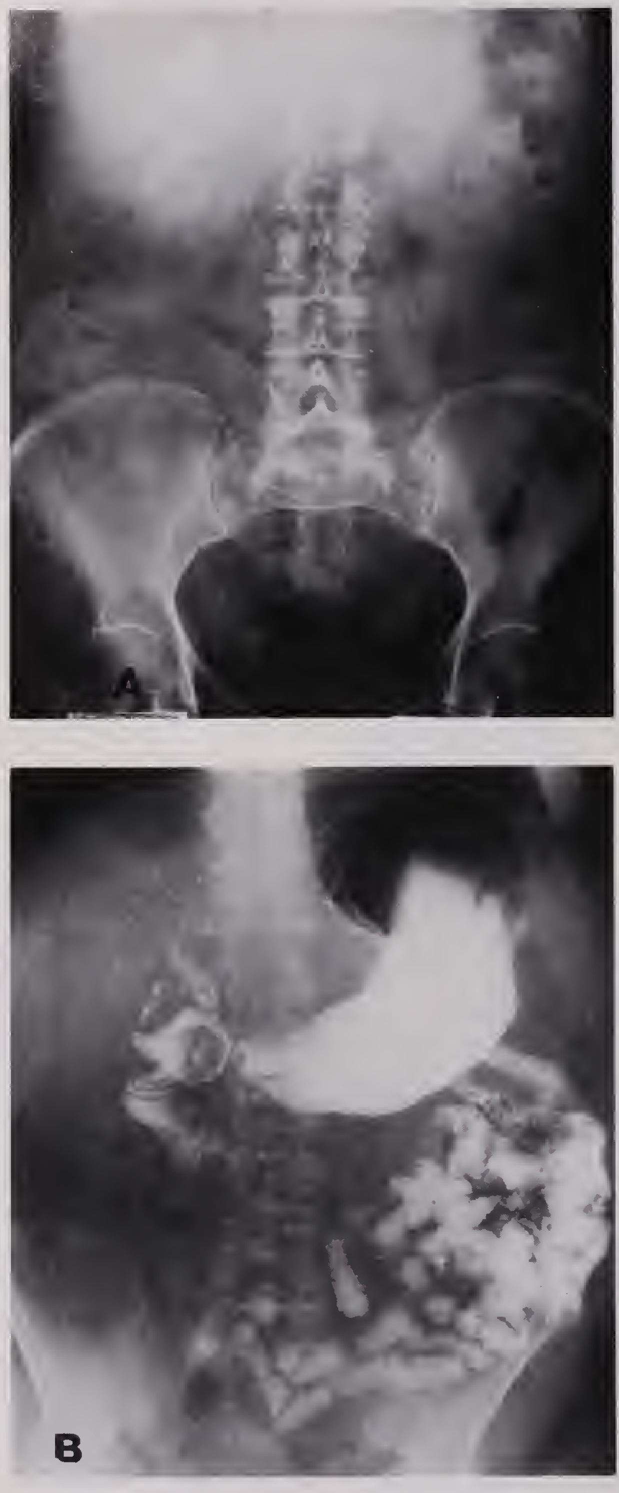


Fig. 1 (A) Scout film demonstrates a 3.5 concentrically calcified gallstone in the right upper quadrant. Air is seen in the biliary tree. (B) Upper GI shows a 3.5 cm filling defect. Contrast material is seen in the biliary tree including cystic duct and intrahepatic bile ducts. Contrast material is seen passing into the small bowel.

These symptoms, while more severe over the past five to six days, were not new. The patient stated that she had been bothered with "gallbladder trouble" for many years. She denied vomiting but did say that nausea and pain were severe. Her past medical history was positive for cholecystitis, cholelithiasis and arteriosclerotic heart disease.

In reviewing her old records, a gallstone had been identified as early as 1968. Since the patient was asymptomatic, however, the gallstone was not removed. Since that time, many episodes of biliary colic had occurred. Due to the patient's severe heart disease, it was elected not to perform surgery. A physical examination revealed a temperature of 98.6F; heart rate, 82; and blood pressure, 150/80. Bowel sounds were normal. Laboratory values were as follows: white blood cell count, 8.2; serum amylase, normal; and alkaline phosphatase, 110. Lactate dehydrogenase and serum glutamate oxaloacetate transaminase as well as electrolytes were normal.

An abdominal flat plate showed a 5 cm laminated gallstone in the right upper quadrant (Fig. 2-A). An upper gastrointestinal examination showed a large, smooth and round 5 cm x 4 cm intraluminal mass that caused partial obtruction to the outflow of barium into the descending duodenal loop (Fig. 2-B). Barium was identified in the gallbladder. A fistula was noted between the gallbladder and duodenum. The biliary tree was well filled with barium. These radiographic findings were consistent with a cholecystoduodenal fistula with partial obstruction by a gallstone. Antibiotic therapy was started in anticipation of surgery. At the operation, the radiographic findings were confirmed. An enterolithotomy, cholecystectomy and fistula repair were performed.

A 6 cm x 5 cm x 4 cm cholelith was removed. The postoperative course was complicated by a pulmonary embolus. Otherwise, the patient's recovery was unremarkable.

Discussion

Cholecystoduodenal fistula and subsequent duodenal obstruction caused by a cholelith is an unusual occurrence. Described first by Baussier in 1770,[1] it became a syndrome in 1896 after a case reported by Bouveret.[2] This syndrome has been described in about 40 cases in the English literature. However, preoperative diagnosis was made in only about one third of the cases.[3] Approximately 1% to 3% of all cases of mechanical small bowel obstruction are caused by gallstones (gallstone ileus).[4] In the over-65 age population, the percentage increases to 20% to 25%.[5, 6] In a series by Day and Marks,[7] 79% of patients with gallstone ileus had concomitant serious disease. Cardiovascular disease was present in 58%, diabetes in 50% and obesity in 58%. These concomitant illnesses raised the mortality to five times that of any other nonmalignant cause of small

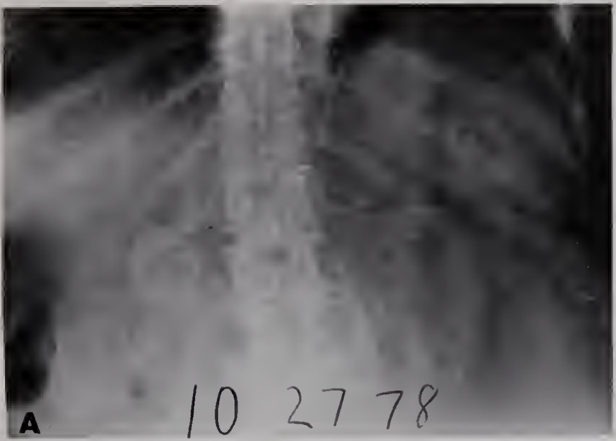
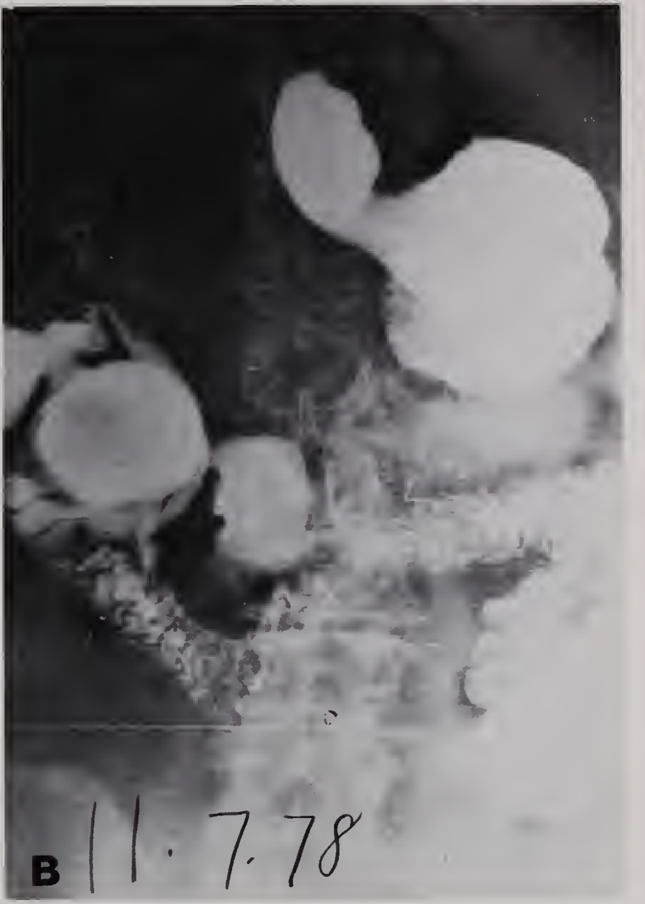


Fig. 2 (A) Scout film demonstrates a 5 cm gallstone in right upper quadrant. (B) Upper GI shows a 5 cm intraluminal mass. Barium can be identified in the gallbladder indicating a fistula between the gallbladder and the duodenum. Barium is seen in the biliary tree. ⟶



bowel obstruction.

The sites and frequency of obstruction by gallstones are duodenum, 1% to 10%; jejunum, 20%; terminal ileum, 54% to 75%; and rectum, 5% to 10%.[8, 9] The route providing transportation for the stone is most appropriately termed a biliary enteric fistula. The gallbladder, common bile duct, or intrahepatic bile duct may be the site of the biliary component, and any part of the small or large intestine may serve as the involved intestinal tract segment.

Many patients will report a prior history of biliary tract disease. During episodes of cholecystitis, inflammation develops in the tissues surrounding the gallbladder. Subsequently, the gallbladder serosal surface can become adherent to the serosa of the adjacent viscus. The gallstone gradually erodes through the gallbladder wall and the intestine to form a cholecystoenteric fistula. The stone is then free to pass into the intestine. In a Mayo Clinic study of 176 fistulas, perforation involved the duodenum in 66%, the colon in 21%, the stomach in 5% and multiple sites in 7%.[10]

It should be noted that cholecystoenteric fistulas may occur as a result of a duodenal ulcer eroding into the adjacent gallbladder.

Approximately 85% of patients with a gallstone less than 2.5 cm in the intestinal tract will be asymptomatic and pass the stone uneventfully. If, however, the stone is larger than 2.5 cm and does not pass spontaneously, as occurs in 15% to 20% of cases, the clinical course may be severe. Symptoms are most often intermittent as the stone passes distally, lodging indiscriminately along its path. This intermittent lodging is termed a "tumbling" phenomenon that describes the stone as it tumbles along the intestinal tract causing either a partial or total obstruction at various levels of the intestine. During these episodes of obstruction, vomiting and poor fluid ingestion is common. If the stone dislodges temporarily and allows the patient intermittent relief, delays in seeking medical attention may occur. The interval between onset of symptoms and the time of admission generally averages four to seven days.[11]

Physical examination is usually difficult due to the abdominal distension, muscle guarding, obesity and the presence of many concomitant diseases. High-pitched bowel sounds are sometimes found. Laboratory values generally reveal only volume depletion and possible electrolyte abnormalities. Liver function studies are abnormal in about one third of patients. These abnormalities consist of mild increases in alkaline phosphatase, 5′neucleotidase and leucine aminopeptidase. The serum bilirubin may be elevated and, occasionally, the serum amylase concentration is elevated.

Abdominal scout films are of prime importance in arriving at a diagnosis. The following four signs given by Rigler, Borman and Noble[12] indicate suggestion of gallstone ileus: (1) air in biliary tree (pneumobilia); (2) a gallstone in the small bowel; (3) change in position of a previously demonstrated stone; (4) radiographic evidence of partial or complete intestinal obstruction, i.e., distended loops of small bowel. While these four signs are helpful, one should not exclude a diagnosis of gallstone ileus even in the absence of these criteria. Since as few as 15% of gallstones may be calcified, an upper gastrointestinal examination is often necessary to identify a filling defect. In Case # 1, the correct diagnosis was easily made by scout film alone. In Case # 2, an upper gastrointestinal examination was needed for definitive diagnosis.

The treatment of these patients ultimately is surgery. However, prior to surgical intervention, the volume depletion and electrolyte imbalance present in most of these patients must be corrected as well as decompression of the gastrointestinal tract. It is almost universally accepted that antibiotic prophylaxis also must be administered in order to reduce postoperative sepsis complications resulting from spillage of obstructed bowel contents at the time of surgery. Septic complications are as high as 75% in unprotected patients.[13] However, Hueman reports a 25% wound sepsis incidence even in those patients given preoperative parenteral antibiotics.[14]

The surgical remedies are varied. In those uncomplicated cases in which a complete fistula has formed and the stone has passed, surgery probably need not be performed. In those cases of obstruction, some physicians advocate cholecystectomy, enterolithotomy and fistula repair,[15] referred to as the "one stage repair." Others advocate only enterolithotomy.[16] Review of the current literature reveals no significant difference in morbidity or mortality with the enterolithotomy vs the one-stage repair. The current mortality of gallstone ileus is in range of 15%.[17]

Conclusion

Intestinal obstruction secondary to choleliths is a relatively rare cause of small bowel obstruction. Bouveret's syndrome is an even more rare cause of intestinal obstruction. Since the majority of cases occur in the elderly population, gallstone ileus must be suspected in an obstructed elderly individual who has had a gallstone in the right upper quadrant demonstrated on previous films. Prompt obtainment of proper radiological studies can rule in or out the correct diagnosis in many cases. If a gallstone ileus exists, correction of the fluid and electrolyte imbalance, administration of prophylactic antibiotics, and prompt surgical intervention can lead to a significant decrease in morbidity and mortality.

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The Mid-Central States Orthopaedic Society, Inc., which meets in Missouri every eight years, will hold its Annual Meeting on June 1-3 at the Lodge of the Four Seasons, Lake of the Ozarks. The meeting is open to members of both the Mid-Central States Society and the Missouri State Orthopaedic Association as well as guest orthopaedic surgeons. Interested orthopaedic surgeons who are not members can request information from Rhoda J. Singleton, Executive Secretary, 9 Laurel Dr., Wichita, KS 67206.

BURL MAYES DILLARD, M.D., EDWIN J. CUNNINGHAM, M.D.,
and THOMAS F. FRAWLEY, M.D., *St. Louis*

Extra-Adrenal Aortic Sympathetic Paraganglioma and Renal Artery Stenosis

Case Report

This report describes a case in which the patient with severe, sustained hypertension and in whom both a unilateral pheochromocytoma and high-grade artery stenosis were coexistent causes of the hypertension.

Preoperative differential renin determinations in renal vein blood and arteriograms were indicative of physiologically significant renal artery stenosis. Similarly, a tumor blush on the arteriography combined with an elevated catecholamine excretion were suggestive of a pheochromocytoma. Both lesions were confirmed at operation. After removal of the pheochromocytoma and correction of the renal artery stenosis, the patient's blood pressure became normal and remained at normal levels.

Dr. Dillard is from the Department of Surgery; Dr. Cunningham is from the Department of Medicine; Dr. Frawley is from the Department of Graduate Medical Education, St. John's Mercy Medical Center.

An estimated 15% to 20% of adults in the United States have hypertension. Due to public health awareness programs, emphasis on the problem of hypertension by the media and application of new techniques (radiological, biochemical and hormonal), the number of undiagnosed and/or untreated hypertensive patients has been significantly reduced. In spite of these programs, the causes in 90% to 95% of cases is still unknown. Secondary hypertension, although comprising a small number of patients, frequently may be cured if diagnosed early enough.

It is of particular interest that almost all of the secondary forms of hypertension are related to alterations in hormone secretion (adrenal cortical diseases, pheochromocytoma, acromegaly, thyrotoxicosis, etc.) and/or alterations in renal function (parenchymal disease, renovascular disease). With respect to one of the types in each of these categories, pheochromocytoma accounts for 0.1% and renovascular hypertension accounts for 1% to 2% of hypertension in the general population. The importance of each has increased because accurate diagnosis has been facilitated in recent years and, above all, each is potentially curable. The success of the application of surgery to the treatment of a wide variety of causes of hypertension is widely accepted (Table 1).

TABLE 1
SURGICALLY CORRECTABLE CAUSES OF HYPERTENSION

a. SYSTOLIC
   1. Thyrotoxicosis
   2. Arteriovenous Fistula
B. SYSTOLIC AND DIASTOLIC
   1. Pheochromocytoma
   2. Primary Aldosteronism
   3. Cushing's Disease and Syndrome
   4. Acromegaly
   5. Hyperparathyroidism
   6. Renal Artery Stenosis
   7. Unilateral Renal Parenchymal Disease
   8. Renin-Secreting Tumors
   9. Coarctation of Aorta

The purpose of this report is to describe the case of a patient with secondary hypertension whose disease was not due to one, but rather two interdependent diseases, each of which falls into the category of "curable" hypertension. The patient had a functioning paraganglioma (pheochromocytoma) associated with renal artery stenosis. With correction of both lesions, the blood pressure returned to normal.

Case Report

A 26-year-old white man was admitted to St. John's Mercy Medical Center in St. Louis with a six-month history of severe hypertension. On the basis of evalua-

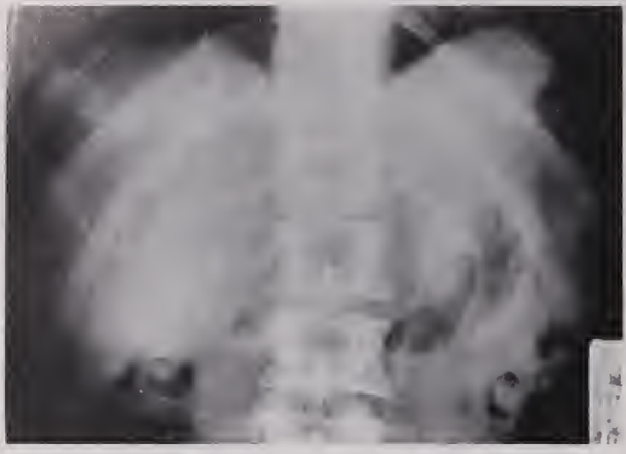


Fig. 1 Right nephrogram is delayed significantly.

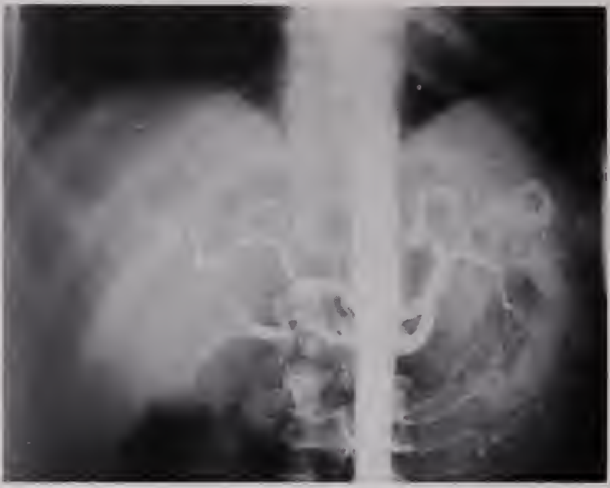


Fig. 2 An occlusive process *(arrow)* of the right renal artery is shown in this angiogram.

tions made in another hospital, a diagnosis of essential hypertension was made. A program of antihypertensive drugs including diuretics, methyldopa (Aldomet), guanethidine sulfate (Ismelin) and hydralazine hydrochloride (Apresoline) was instituted.

The physical examination showed no abnormalities except for fluctuations in the blood pressure ranging from 240/160 to 200/120. Chest and skull roentgenograms, SMA 12, Chemistry 6, serum creatinine value, urinalysis, electrocardiogram and all routine studies were normal. A rapid sequence intravenous pyelogram (Fig. 1) showed a delayed nephrogram on the right, consistent with renovascular disease. Urine catecholamine determinations were elevated preoperatively (Table 2).

An abdominal angiogram was performed via the right femoral artery. This showed a 95% occlusion of the right renal artery as illustrated in Fig. 2. Figs 3 & 4 illustrate a "tumor stain" on the same angiogram. After the high-grade renal artery obstruction was demonstrated, blood samples were obtained from both renal veins and from the vena cava, above and below the renal veins, for renin determination. Significant elevation was found on the right (Table 3). A preoperative blood volume was found to be 20% below normal.

A resection of the retrocaval pheochromocytoma and a segment of the right renal artery with end-to-end anastomosis was performed. At the time of surgery a tumor that measured 4.7 cm x 2.5 cm x 2 cm was found wrapped around the right renal artery and extended underneath the vena cava to the right renal vein and underneath the left renal vein. The tumor was careful-

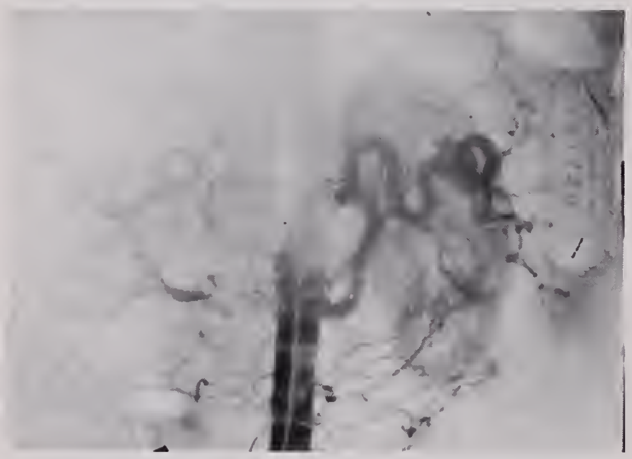
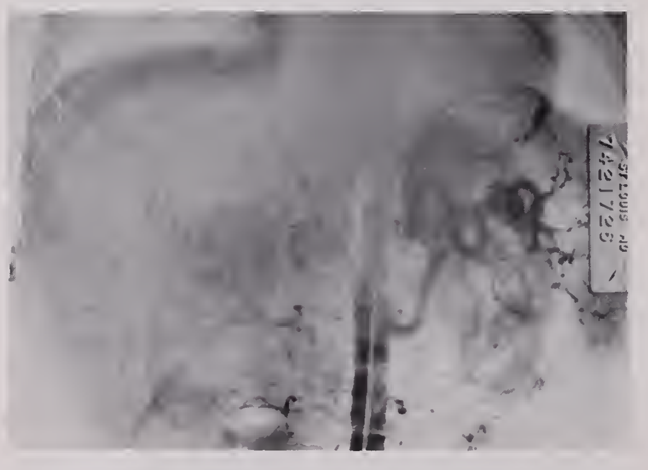


Fig. 3



Figs. 3 & 4 Angiogram different stages in a developing "tumor stain" adjacent to the aorta on the right.

TABLE 2
PREOPERATIVE URINE CATECHOLAMINE STUDIES

Total	**502 mcgd/24 hrs**
Norepinephrine	**454.4 mcgs/24 hrs**
Epinephrine	**47.6 mcgs/24 hrs**
VMA	**7.4 mg/24 hrs**

ly dissected free and removed completely. The stricture of the right renal artery was resected and repaired by an end-to-end anastamosis using 5-0 Tycron sutures. The patient became hypotensive during the operation, but his blood pressure responded promptly to an infusion of phenylephrine hydrochloride (Neo-Synephrine).

The pathological findings were indicative of extrinsic compression of the renal artery only.

The patient did well postoperatively. The blood pressure stabilized at about 130/80 and has remained in this range over the past eight years. The postoperative plasma renin was 0.1 ng./ml. and the postoperative urine catecholamines are listed in Table 4. A postoperative IVP was normal (Figure 5).

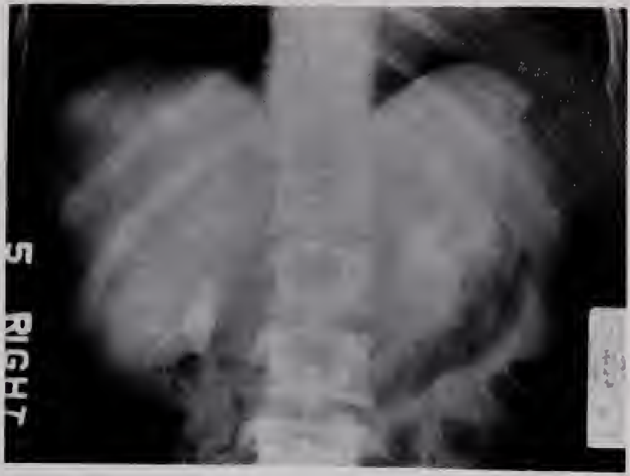


Fig. 5 Postoperative intravenous pyelogram that shows both kidneys promptly. Compare with Fig. 1.

Discussion

This report is the 17th known instance of this rare combination of pheochromocytoma with renal artery stenosis. Those previously reported are listed in Table 5. Of the 17 now known, 11 are female patients and the ages of the group ranged from 13 to 57 years with an overall average age of 31 years. It is gratifying to note the low average age of these patients since it suggests that many of these patients were exposed to a relatively short life span of hypertension before their surgery and were, thereby, spared the premature development of the vascular complications of hypertension.

Pheochromocytoma

Pheochromocytoma was first described in 1886. It is a rare, most often histologically benign tumor of the sympathetic nervous system that secretes excessive quantities of epinephrine and/or norepinephrine into the blood stream. The diagnosis is suggested on the basis of symptoms resulting from an excess of catecholamine secretion. Eighty-five percent of patients with a pheochromocytoma have sustained or labile arterial hypertension and it is this hypertension alone that merits evaluation for the presence of a pheochromocytoma. The suggestion of pheochromocytoma is heightened if there is an accompanying hypermetabolic state, tachycardia, flushing episodes, impaired carbohydrate tolerance and paroxysms of hypertension which are dramatic in onset, startling in the symptoms produced and provoked by minimal excitement, abdominal pressure or during micturition. Paroxysmal hypertensive episodes are accompanied by palpitations, tachycardia, a feeling of malaise and apprehension, headache and excessive sweating. Unfortunately, severe anxiety states may mimic many of the symptoms, thus making intensive evaluation necessary using special laboratory procedures. Provocative tests with histamine, glucagon and tyramine are rarely used or necessary. Due to the sensitivity of the response of pheochromocytomas to postural changes, the use of a tilt-table test accompanied by measurements of catecholamine levels may be diagnostic in some cases.

TABLE 3
PREOPERATIVE RENIN STUDIES

Plasma Venous Renin	129 ng/ml
Right Renal Vein	346 ng/ml
Left Renal Vein	121 ng/ml
Supra Renal Vein Vena-Cava	98 ng/ml
Infra Renal Vein Vena-Cava	129 ng/ml

TABLE 4
POSTOPERATIVE URINE
CATECHOLAMINE STUDIES

Total	57.3 mcgd/24 hrs
Norepinephrine	57.3 mcgd/24 hrs
Epinephrine	0.0 mcgd/24 hrs

Ninety percent of these tumors are in the adrenal glands and, as in our patient, occur on the right side more often than on the left. With the advances in preoperative, operative and postoperative care, the surgical mortality has been lowered markedly from 25% to 45% in the period prior to 1950 to a current mortality of about 3%. The diagnosis of pheochromocytoma today depends almost exclusively on measurements of

TABLE 5

Case	*Age*	*Sex*	*Description*	*Operation*	*Author*
1	19	M	Bilateral pheochromocytoma with compression of renal arteries	+	Heberer *et al*[2]
2	21	F	Pheochromocytoma with compression of renal artery	+	Sato *et al*[3]
3	32	F	Pheochromocytoma with compression of renal artery	+	Kerzner *et al*[4]
4	13	M	Pheochromocytoma with compression of renal artery	+	Weidmann *et al*[5]
5	52	F	Pheochromocytoma with compression of renal artery and vein	+	Weidmann *et al*[5]
6	25	F	Pheochromocytoma with compression of renal artery	+ +	Rosenheim *et al*[6]
7	18	M	Pheochromocytoma with compression of renal artery	+ +	Rosenheim *et al*[6]
8	16	F	Pheochromocytoma with compression of renal artery	+ +	Harrison *et al*[7]
9	47	M	Pheochromocytoma with compression of renal artery	+ +	Kerzner *et al*[4]
10	35	F	Pheochromocytoma with compression of renal artery	+ +	Hudson[8]
11	36	F	Pheochromocytoma with compression of renal artery	+ + +	Straube & Hodges[9]
12	38	F	Pheochromocytoma with fibromuscular hyperplasia	+ + +	Garrett *et al*[10]
13	27	F	Pheochromocytoma with fibromuscular hyperplasia	+ + +	Wan Way *et al*[11]
14	38	F	Pheochromocytoma with fibromuscular hyperplasia	+ + +	Kwan *et al*[12]
15	35	M	Pheochromocytoma and atherosclerotic renal artery stenosis	+ +	McBride & Fitz[13]
16	57	M	Pheochromocytoma and atherosclerotic renal artery stenosis	+ + +	Bethea *et al*[14]

+ Tumor excision.
+ + Tumor excision and nephrectomy.
+ + + Tumor excision and renal revascularization.

plasma or urinary catecholamines or both.

The hormones of the sympathetic nervous system are dopamine, norepinephrine and epinephrine. All three are catecholamines, but common usage has limited this generic designation to only norephinephrine and epinephrine in the adrenal medulla primarily. Eighty percent of epinephrine is produced in the adrenal medulla and 20% of norepinephrine is of adrenal origin. Most of the circulating catecholamines are metabolized to normetanephrine and metanephrine and then to vanillymandelic acid (VMA) and excreted in the urine. VMA makes up 70% to 80% of the total catecholamines; metanephrines, 10% to 15%; and free catecholamines, less than 1%.[1]

Our patient had significantly elevated levels of total urinary catecholamines (502 mcg/24 hr) (Table 2). Norepinephrine constituted 90% of the total catecholamines. The urinary VMA was not elevated. The pathologic diagnosis on our patient's tumor was paraganglioneuroma, which, in some instances, may be nonsecretory and is suspected only by virtue of the presence of a mass or a local effect produced on an adjacent organ or structure. The low VMA may be interpreted as evidence of depressed levels of amine oxidase that converts both metanephrine metabolites to vanillymandelic acid. This unexpected depressed level of urinary VMA also was reported in the patient whose urinary excretion of VMA was normal and reported by VanWay.[11]

The current state of the art for diagnosing pheochromocytoma recommends the measurement of plasma catecholamine concentrations. The technique has been shown to have great accuracy and reliability. Some of its advantages include obviating the need for 24-hour urine specimens and collecting blood at precise times correlated with the blood pressure response, whether spontaneously altered or in response to a provocative stimulus. The measurement of total plasma catecholamines is particularly useful as an initial laboratory examination in each patient with hypertension. It is done with the patient at rest and in the supine position. The major consideration is being sure of the reliability of the assay. In conclusion, the establishment of an accurate diagnosis of pheochromocytoma depends on measurement of abnormal elevations of catecholamines and metabolites in the patient's blood and urine.[15]

The most accurate radiological techniques for the localization of these tumors are angiography and computerized body tomography (CT). Aortography with selective arteriography is the most accurate method for localization of the tumors. In our patient, this procedure led to the finding of an unsuspected tumor along with renal artery stenosis. CT scan may localize adrenal tumors accurately, but extra-adrenal lesions may remain totally undetected. However, the CT scan should be the first localization study performed in patients whose clinical or laboratory findings suggest the presence of pheochromocytoma. The IVP, even with laminography, has a very low diagnostic yield.

RENOVASCULAR HYPERTENSION

The incidence of renovascular hypertension is unknown. Some believe it may account for as many as 5% of patients with diastolic hypertension, but the most generally accepted figure is about 2%.[16] This improving rate of positive diagnoses of renovascular hypertension has been due directly to the improving quality of renal arteriography and the measurement of renal venous renin levels. The finding of renal artery stenosis in a hypertensive patient does not suffice to establish the diagnosis of renovascular hypertension. Functional tests are mandatory so as to determine whether or not the stenosis is the cause of the hypertension.

The measure of bilateral renal-vein plasma renin activity has been used to select hypertensive patients with anatomical renal artery stenosis for surgical therapy. Ratios of renin in the two renal veins of 1.5:1 or greater have been considered positive. Under the circumstances, experience indicates that the patient is likely to be relieved of hypertension or significantly improved by appropriate surgical correction of the lesion.

In our patient the peripheral plasma venous renin level was 129 ng/ml, as was the level in the inferior vena cava (Table 3). The left renal vein level was 121 ng/ml, but the level in the right renal vein was 346 ng/ml. This gives a ratio of right renal vein renin to left renal vein renin of 2.85 to 1.00. While this fulfills the criteria for renovascular hypertension when coupled with the positive angiographic evidence of a 95% occlusion of the right renal artery, it does not provide absolute assurance that there is only this cause for hypertension in a patient and that other causes of hypertension do not coexist. This axiomatic declaration is evident to no greater degree than in our patient who had a coexisting functioning paraganglioneuroma (pheochromocytoma).

UNILATERAL RENAL ISCHEMIA COEXISTING WITH PHEOCHROMOCYTOMA

As noted above, our patient is the 17th known patient with combined renal artery stenosis and pheochromocytoma (Table 5). In 1963, Rosenheim *et al*[6] reported two hypertensive patients with renal ischemia caused by compression of a renal artery by a pheochromocytoma situated at the hilum of the kidney. The first was a 25-year-old woman with a right renal artery constriction due to an unsuspected pheochromocytoma, but it was confirmed histologically and subsequently by retrospective analysis of stored urine specimens for catecholamines. The second patient was an 18-year-old man with a pheochromocytoma on the left side and renal artery stenosis that were both diagnosed preoperatively. Unlike the situation in our patient in whom the pheochromocytoma was excised and constricted renal artery repaired, both of Rosenheim's cases required nephrectomy. The kidney had to be sacrificed in other cases, also.[4, 9]

It is difficult to be precise in stating which lesion caused the hypertension in our patient. In view of the distinctly abnormal levels of catecholamine excretion and the positively observed renal stenosis with measureable plasma renin differences between both kidneys, it is very likely that each condition contributed to the hypertension. Since the operative correction of both was carried out simultaneously and not sequentially, no positive assigning of which lesion had the more significant cause and effect is possible. In terms of the sequence of the development of both lesions, it is our intuitive belief that the tumor developed initially and its growth was followed by the renal artery stenosis. However, the stenosis must have been of some duration since relieving the pressure of the tumor on the renal artery was not accompanied initially by a normal flow through the compromised renal artery.

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(Continued on page 85)

STEPHEN H. CRUIKSHANK, M.D., Kansas City

Simple Vulvectomy in Modern Gynecology

THE ROLE OF SIMPLE VULVECTOMY in modern gynecology is controversial since many physicians advocate alternative therapy for conditions formerly treated with simple vulvectomy (i.e., radical vulvectomy for microinvasive carcinoma, topical 5-FU or wide local excision for Bowen's disease, and skinectomies for less invasive lesions).

During the period of 1961-1976, 44 simple vulvectomies were performed at the University of Iowa Hospitals. We have reviewed these cases to ascertain the indications for simple vulvectomy and its efficacy as primary therapy of certain vulvar disease. In all cases, a preoperative biopsy was done and simple vulvectomy was selected only for those with marked dysplasia, carcinoma in situ, basal cell tumors, microinvasion and Paget's disease.

MATERIAL AND METHODS

The records of all 44 patients treated with simple vulvectomy during the years 1961-1976 were reviewed. All the patients were screened prior to surgery with Papanicolaou smears and multiple biopsies from the lesion, and each has been observed for five to 20 years postoperatively. The patients ranged in age from 35 to 93 years (average 59.5).

RESULTS

Twenty-nine patients (66%) had a history of vulvar pruritus of ten weeks' to 30 years' duration. Other symptoms included perineal burning, presence of a mass, dysuria, "white lesion" and dyspareunia. (Table 1.)

TABLE 1
SIMPLE VULVECTOMY —
PRESENTING COMPLAINTS

Symptom	*No. of Patients*	*Percent*
Pruritus	29	66.0
Perineal burning	9	20.4
Mass	6	13.6
Dysuria	4	9.1
White lesion	3	6.8
Dyspareunia	1	2.3
Total	44	

Correlation of Histology — Biopsy and Surgical Specimens

As indicated in Table 2, the histologic diagnosis shown by a preoperative biopsy was the same as that of the surgical specimen in 39 of the 44 patients (89%). The remainder demonstrated either disparity between the biopsy results and vulvectomy diagnosis or the surgical specimen contained pathologic processes in addition to those demonstrated by the biopsy results. Of the 24 patients with carcinoma in situ on the vulvectomy pathology, two had been diagnosed by a biopsy as moderate dysplasia. Of the five cases of microinvasive carcinoma, four were correctly diagnosed by a previous biopsy; in the fifth, the biopsy had revealed only severe dysplasia.

All patients with the final diagnosis of Paget's disease also had Paget's disease shown by the biopsy. Of the two patients with the final diagnosis of dysplasia, one had been diagnosed correctly by a biopsy, while the other had been diagnosed as carcinoma in situ by a biopsy. The one case of hyperkeratosis had been diagnosed by a biopsy as carcinoma in situ with microinvasion. All the basal cell carcinomas were diagnosed by prior biopsy results. The one case of verrucous carcinoma was diagnosed on prior biopsy. In 4% of patients, the

TABLE 2
SIMPLE VULVECTOMY — COMPARISON OF
HISTOLOGY — BIOPSY VS SURGICAL SPECIMEN

Disease	*Diagnosis by Biopsy*	*Diagnosis by Vulvectomy*
1. Carcinoma in situ	22	24
2. Microinvasive	4	5
3. Basal cell carcinoma	5	5
4. Paget's disease	4	4
5. Dysplasia	1	2
6. Invasive	2	2
7. Verrucous carcinoma	1	1
8. Hyperkeratosis	0	1

biopsy diagnosis was more advanced than the final diagnosis, whereas it was less advanced in 7%.

Five cases of microinvasion were treated with vulvectomy in our series. Although there is not a standard definition of microinvasion, it is defined histopathologically as a lesion less than 3 mm in stromal thickness at the University of Iowa.

Also in our study were two cases of invasive vulvar carcinoma. Both were Stage II according to FIGO classification and confined to the vulva with a diameter greater than 2 cm but with no suspected groin nodes. Both patients were treated with simple vulvectomy because their age and debilitated condition would not permit a more radical procedure.

Operative Mortality and Morbidity

The mortality and morbidity associated with simple vulvectomies proved to be quite low in our experience. There were no deaths and few postoperative complications. The hospital stay averaged 8.9 days. Thirty-six (81%) of our population remained afebrile through their postoperative course. Of the eight (19%) with febrile morbidity, three were due to urinary tract infections and three were secondary to wound breakdown. These patients were treated with sitz baths, hydrogen peroxide, and debridement. They were discharged on the 10th, 12th and 18th day postoperatively. The other two cases of febrile morbidity were isolated occurrences with no demonstrable cause. One of the patients with wound breakdown and infection had not resumed "normal" sexual function by the end of the first year postoperatively and, as a result, had an unhappy home situation. By the second year, however, she had resumed normal sexual activity. Another patient experienced total loss of vaginal sensation resulting in orgasmic dysfunction and has abandoned coitus as a result. Another patient complained of stress urinary incontinence since the time of operation but elected not to have an operative procedure since her symptoms were minimal. Of the 44 patients, 41 are still being observed and other long-term complaints of incontinence, sexual dysfunction, or difficulty directing the urinary stream have not been seen.

Recurrence

Of the patients with the final histological diagnosis of carcinoma in situ, 80% (20 patients) had no recurrence of the vulvar disease. The remaining four patients had recurrence of carcinoma in situ of the vulva and were treated with wide local excision. These patients have been symptom-free since with follow-up observations ranging from seven to 13 years. All surgical margins from the primary operation were free of tumor, which is an important factor in prognosis as stated by Friedrich *et al.*[1] Another recurrence was diagnosed as invasive epidermoid cancer four years later. Because of this patient's age (93 years), no further treatment was recommended. One of the patients with invasive carcinoma died within the first year secondary to her previous debilitated condition. The other patient with invasive disease has remained free of recurrence. All other patients of our study group have remained free of residual disease for five to 17 years after the primary procedure.

In this study, the author reviews the role of simple vulvectomy used as a primary treatment for certain vulvar diseases during the period of 1961-1976 at the University of Iowa Hospitals. There was no mortality and minimal morbidity associated with the surgery. Eighty-eight percent of the 40 patients were cured by initial simple vulvectomy, and the disease was eradicated in all patients when combined with local excision of any subsequent recurrence.

Dr. Cruikshank is Assistant Professor, Department of Obstetrics and Gynecology, University of Missouri-Kansas City and Truman Medical Center.

DISCUSSION

Based on our results, it can be seen that simple vulvectomy for preinvasive vulvar lesions is effective. Our cure rate with simple vulvectomy over 15 years has been 88%. Moreover, the failures of simple vulvectomy were subsequently cured by wide local excision.

The recurrent lesions all occurred in patients who had the original diagnosis of carcinoma in situ. There is controversy in the literature regarding surgical vs medical therapy of carcinoma in situ of the vulva. Unlike squamous carcinoma of the cervix in situ, vulvar carcinoma in situ is frequently multifocal and/or multicentric in origin. Because of this multicentricity, simple vulvectomy may someday again prove to be more efficacious than wide local excision, skinectomies or topical 5-FU treatment. Total removal by vulvectomy allows for complete assessment of the tissue. This is not so for either local excision or topical therapy, and symmetrical control is lost with chemotherapy. Because the cure depends on certain reactions to abnormal cells, complete cure is never assured with topical therapy. On the other hand, Dean *et al*[2] stressed that topical 5-FU for carcinoma in situ of the vulva was the treatment of choice in the young patient. The main advantage here is that the patient is spared the "disfigurement" of vulvar removal. As mentioned, Friedrich[1] stresses the point that it is not the operative procedure done, but the free surgical margins that are important to prognosis. This is the reason for the present trend of less disfiguring procedures.

The results in our five cases of microinvasive cancer of the vulva treated by simple vulvectomy suggest the advisability of conservative surgery for microinvasive cancer. One case that was diagnosed as moderately severe dysplasia of the vulva was treated by simple vulvectomy and had no recurrence. The other patients with microinvasive cancer of the vulva shown by a biopsy underwent simple vulvectomy with bilateral inguinal node biopsies that revealed no metastasis. After nine to 15 years, there had been no signs of recurrence. Likewise, Dean[2] found no recurrences in three patients treated by simple vulvectomy for microinvasion (defined as stromal invasion less than 5 mm), but one recurrence among three was treated with wide local excision. Thus, radical vulvectomy may be unnecessarily extensive for treatment of microinvasive lesions. Just as carcinoma in situ, Paget's disease or basal cell carcinoma, microinvasion can be multicentric in nature. It may be that simple vulvectomy will be the treatment of choice for this entity, rather than radical vulvectomy.

A review of the literature over the past ten years shows that treatment for the various vulvar lesions is controversial. Wharton *et al*[3] concluded that microinvasion of the vulva was invasion into the stroma of 5 mm or less and can be treated with conservative surgery. Of their 25 cases, 15 were done by local excision or by simple vulvectomy with inguinal node dissection or pelvic node dissection. In this group, there were no positive nodes. Dean[2] concluded that microinvasion can be treated with wide local excision or simple vulvectomy. It is our contention that simple vulvectomy is the procedure of choice because of the multicentric nature of microinvasion.

The four patients with Paget's disease of the vulva were treated with simple vulvectomy and have had no recurrence to date. Since the danger of malignancy in Paget's disease is significant, simple vulvectomy is the procedure of choice. The prognosis is worsened with sweat gland involvement. In patients with Paget's disease of the vulva, it is imperative to look for concomitant carcinoma in other locations such as adenocarcinoma of the breast and gastrointestinal tract (GI) and squamous cell cancer of the cervix and vulva.

Accurate diagnosis is mandatory prior to definitive therapy of vulvar lesions. Careful adherence to the following protocol facilitates diagnosis of vulvar lesions:

(1) *A high index of suspicion and careful observation*. It is quite important to inspect the vulva in a systematic fashion. To accomplish this, one needs a good source of magnification. Many have advocated colposcopy, but because the total area of the vulva is so large (200 sq cm), this is not always practical. Friedrich[4] encourages the use of a regular magnifying glass to permit rapid scanning.

(2) *Staining the area* with toluidine blue 1% solution and 1% acetic acid can greatly facilitate identification of suspected vulvar lesions. Toluidine blue is a nuclear stain. This is applied to the entire vulvar area generously, allowed to dry for one to two minutes and then rinsed with 1% acetic acid, a decolorizing agent. The acetic acid will decolorize and remove any dye not bound to nuclear material. If dry areas are not decolorized, then increased amounts of nuclear material are present. This does not necessarily indicate carcinoma, but it should raise the index of suspicion, and a biopsy of specimens from these areas should be done.

(3) *Biopsy*. This is the sine qua non of diagnosis of vulvar disease. It is an office procedure, and either Keyes punch or excisional biopsy should be performed on any suspicious vulvar lesion.

(4) *Papanicolaou smears of the vulva are of limited value*. The technique depends on cells being shed from nonkeratinized areas. Since many lesions of the vulvar are keratinized, Pap smears of these are futile.

In the past, there has been much misuse of the terminology regarding vulvar dystrophies. Descriptive terms such as "leukoplakia" and "Kraurosis vulvae" have been used as a histological diagnosis, when they really are not. "Leukoplakia" is a description for any white lesion. "Kraurosis" implies shrinkage and atrophy. The process by which a white lesion is formed is by hyperkeratosis and inflammation leaving "leuko-

(Continued on page 85)

JAMES K. FISHER, M.D., *Kansas City*

Multiple Sessile and Pedunculated Gastric Carcinoids

This article is based on a case report of a patient with multiple gastric polyps that, after specimen biopsy, proved to be carcinoid tumors. All of the estimated 50 lesions were sessile except for the largest polyp (2 cm) that was pedunculated on a short stalk. While carcinoids are submucosal tumors, none of these could be easily differentiated from epithelial or other types of submucosal polyps.

Dr. Fisher is from the Department of Radiology, St. Luke's Hospital.

BENIGN GASTRIC POLYPS are found in 2% of double contrast studies of the stomach.[1] The most common polyps are the small hyperplastic polyps that are usually less than 1 cm in diameter and are frequently multiple with both sessile and pedunculated varieties. Gastric polyps more likely tend to be adenomatous as their size increases. Both types of polyps may produce radiographic images such as negative filling defects, ring shadows, "Mexican and bowler hat images" and the hanging droplet sign.

Submucosal tumors, conversely, can be identified by their ability to present at right angles with the gastric wall and their smooth margin and surfaces. Folds that approach this tissue tend to fade out. These signs, if present, help one to recognize their origin. The varied appearances of mucosal and submucosal polyps overlap. Differentiation (as in our case) can be difficult. These submucosal masses can even have stalks and be pedunculated.

Most submucosal masses are of mesenchymal origin, the most common being the leiomyoma. Carcinoid, while one of the most common submucosal tumors of the small bowel, is one of the least commonly seen tumors in the stomach.[2, 3] Our patient had multiple gastric carcinoids and exhibited many signs of mucosal-appearing tumors, including their ability to be pedunculated.

CASE REPORT

The patient was an 80-year old white woman who transferred to our hospital because of what was believed to be a leaking abdominal aortic aneurysm. She complained of weakness, fatigue and anorexia of several days duration. She had experienced a 48 lb weight loss and poor appetite over the past eight months. She also had experienced chronic backache intermittently.

The only major illnesses were one bout of pneumonia and a fractured arm. Her daily medications included one unnamed drug for hypertension and a thyroid supplement. She denied the use of tobacco or ethanol. Her physical examination showed only reduced lower extremity pulses. Review of the outside CT scan was found to be inconsistent with the previous diagnosis of aneurysm and could not explain her anemia.

On admission, her blood cell count was as follows: hemoglobin, 10.3 gm/100 ml; hematocrit, 29%; and red blood cells (RBC), 2,840,000/cu mm. The blood indices revealed a mean corpuscular volume (MCV) of 105 cu μ; MCH of 36 micromicrograms; and MCHC of 35%. A smear showed polychromasia and macrocytes. The white blood cell count and differential were normal. A Schilling test showed only a 1% value.

All of these indicated pernicious anemia for which she was treated. Other values, however, pointed to a mixed anemia. Her serum iron measurement was 24 MCG/DL and reticulocyte count was 3.7%. She had fecal blood. Values confirmed hypothyroidism with a T-3 of 26, T-4 of 4.9 and a T-7 of 1.27. Other positive laboratory values were a total protein of 6.1 G/DL, serum calcium of 8 MG/DL, LDH of 293 and sodium of 136 MEQ/L.

Radiographs of the chest disclosed slight cardiomegaly. A double-contrast barium enema showed a 0.5 cm polyp in the mid-ascending colon with a questionable second larger polyp proximal to the first. Diverticula were also present as well as internal hemorrhoids. No upper gastrointestinal (GI) examination was done at this time, but it was undertaken preoperatively when the patient was readmitted for surgery.

Upper endoscopy showed a normal-appearing esophagus, antrum and duodenum except for a hiatal hernia. However, the proximal portion of the stomach showed multiple gastric polyps ranging from 0.5 cm to 2.5 cm in size. The largest of the lesions was along the greater curvature of the distal portion of the stomach

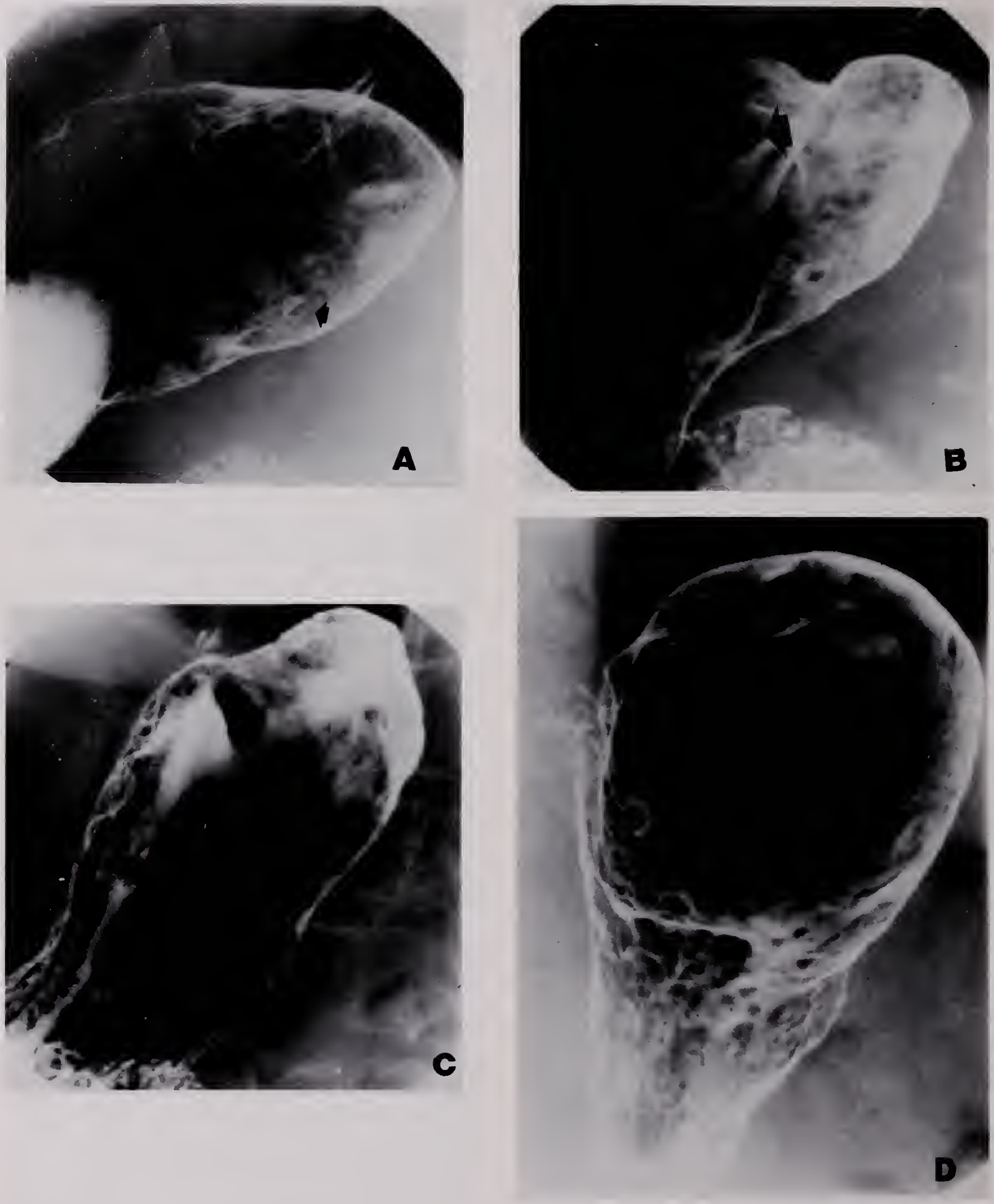


Fig. 1 Cardia, fundus and upper body of the stomach during a double contrast upper GI (105 mm images) (A) Right lateral supine image shows multiple mucosal-appearing filling defects and ring shadows with a bowler hat sign *(arrow)*. (B) Right lateral supine image shows various-sized filling defects and ring shadows with clustering effect *(arrow)*. (C) Right posterior oblique supine image shows multiple various-sized filling defects and ring shadows. (D) AP upright image demonstrating multiple filling defects and ring shadows with a bowler hat sign *(arrow)*.

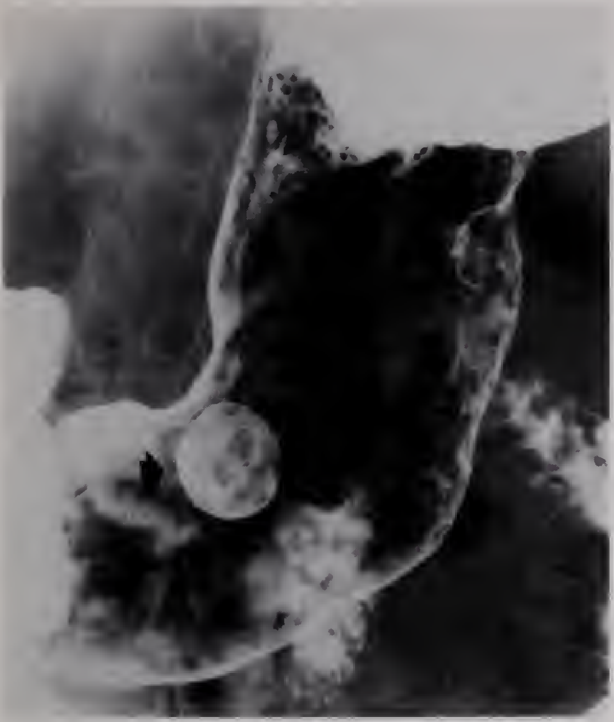
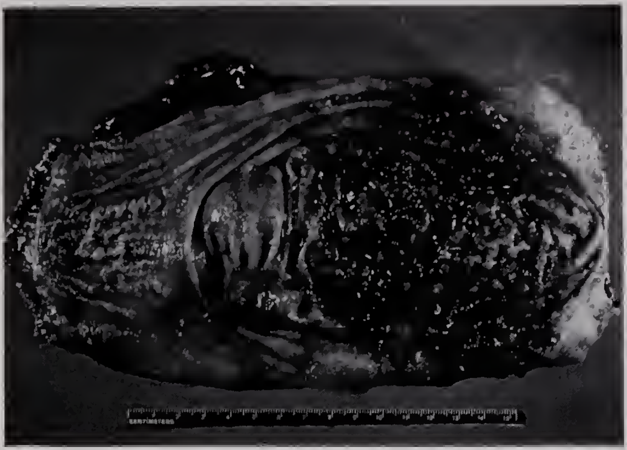


Fig. 2 AP supine image of the lower body and junction of the body and antrum shows a ring shadow along the greater curvature of the body of the stomach and a pedunculated polyp at the junction of the body and antrum with the Mexican hat sign *(arrow)*.

and was pedunculated. Many of the polyps were in "grape-like" clusters near the gastroesophageal junction. Submucosal nodularity extended down the greater curvature of the stomach and cardia. Results of specimen biopsies showed findings compatible with carcinoid. The patient was re-endoscoped for further biopsies and the prior findings were confirmed.

The biopsy specimen showed a tumor involving the mucosa and submucosa. Sheets of tumor cells in small lobules with acidophilic cytoplasm with very uniform round nuclei were seen. The tumor cells were argyrophil-positive with a Grimelius stain. A prominent glandular component was present, but the glands were irregularly shaped and surrounded by a fibrous stroma.

Following the work-up, the patient was given 2 units of blood for her anemia. She was then discharged. Five weeks later, she was admitted for surgery. Results of a workup for other endocrinopathies and secondary effects of the carcinoid tumors were negative except for a questionable false-positive metanephrine of 2.1 mg/24H. A double-contrast, upper GI and small bowel examination were done (Figs. 1 & 2). Tertiary esophageal contractions and a small hiatal hernia were seen with gastroesophageal reflux but without esophageal mucosal abnormality. Multiple variously sized polyps measuring from 0.5 cm to 2.0 cm were confirmed in the proximal half of the stomach and are seen in the multiple different views of Figs. 1 & 2.



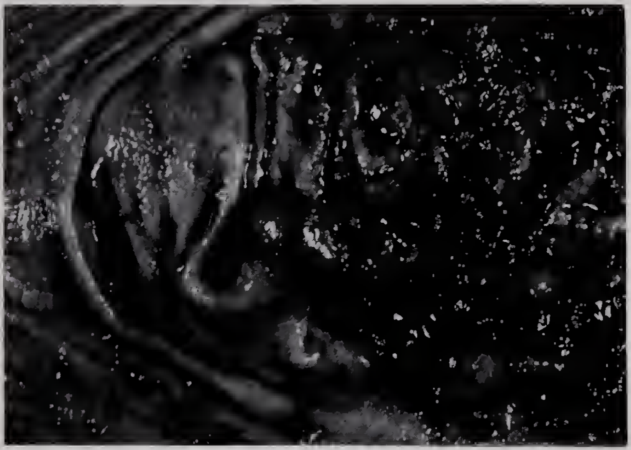


Fig. 3 *(A-top)* Surgical specimen of the stomach that shows entire stomach with 2 cm pedunculated polyp in the mid portion of the stomach. Coarsely nodular folds and small polypoid protrusions are in the right aspect of the specimen at the upper and lower edges. *(B-bottom)* Close-up of pedunculated polyp.

The large 2.0 cm pedunculated polyp was seen along the anterior gastric wall of the greater curvature near the junction of the body and the antrum of the stomach (Fig. 2). Nodularity of the antrum was suggested, but no actual polyps were seen in the antrum. This was confirmed during an intraoperative endoscopy prior to a total gastrectomy with a jejunal pouch and Roux-En-Y (Hunt-Lawrence pouch). While only a duodenal diverticulum was seen without other small bowel abnormalities during the previous fluoroscopic examination, surgery disclosed two ileal nodules (0.8 cm and 1.3 cm), both of which proved to be carcinoids. No positive nodes or liver metastasis were seen.

The surgical specimen (Fig. 3-A) showed an estimated 50 small polyps. The largest polyp was 2 cm x 1.5 cm x 1.7 cm and was on a short stalk near the body and antral junction. Fig. 3-B is a close-up view of the specimen in Fig. 3-A with emphasis on the largest polyp.

The polyps were limited to the proximal two thirds of the stomach on both the anterior and posterior walls, especially along the greater curvature. Tumor involvement was limited to the submucosal layer except for one section that showed mucosal microscopic tumor collections. There were prominent rugal folds throughout the stomach that showed atrophic (chronic gastritis) and metaplastic changes of their surfaces.

In the center of the head of the large polyp, a well-delinated, but not encapsulated, mass of neuroendocrine cells were found. They were consistent with a diagnosis of carcinoid. The stalk was not involved. Similar findings were seen in all sections of the stomach and small bowel. Each had a gray-yellow to yellow color on gross inspection. Only the 1.3 cm small bowel polyp showed evidence of invasion with infiltration into the muscle layers and mucosa. The submucosal tumors of the stomach were associated with desmoplastic infiltration into the adjacent mucosa, but they did not penetrate the gastric muscle layers.

Discussion

In 1907, Oberndorfer named a tumor mass carcinoid because it resembled carcinoma, but he believed it to be benign.[4, 5] It has since been learned that they are frequently not benign. The cytoplasmic granules of the tumor cells have an affinity for staining with silver salts and, therefore, were called argentaffin tumors. Argentaffinomas originate from the Kultschitzky cells deep in the crypts of Lieberkuhn that are found in high numbers in the appendix and, to a lesser degree, in the stomach.[6] Only 1% to 3% of carcinoid lesions of the gastrointestinal tract are of gastric origin.[7-9] These tumors represent only 0.3% of all gastric neoplasms.[10] As with extra-gastric carcinoids, they are frequently multiple.

Approximately 30% of carcinoid tumors metastasize. They spread first to regional lymph nodes and then to the liver. Rarely are there lung or bone metastases. These tumors grow slowly. The usual survival time varies from ten to 18 years. There is a 93% five-year survival rate with only local disease.[11] This implies that most metastases are either late or limited. A 23% five-year survival rate is seen if metastasis is present at surgery. The malignant behavior of the tumor is best determined by gross and microscopic evidence of invasiveness. The larger the tumor, the greater the chance of its being malignant. Because of the prolonged survival in these patients, there is an increased incidence of second malignancies occurring in patients with carcinoid tumors. Treatment of all gastric carcinoids is surgical. Because of their slow growth, palliative procedures are worthwhile.

Patients with gastric carcinoid may be asymptomatic. If they have symptoms, however, these are not characteristic. Epigastric pain is the most common symptom and bleeding occurs more frequently than with any other GI carcinoid. Massive bleeding has been reported.

Anemia, anorexia, weight loss, nausea and vomiting may occur. Ulcer-like complaints are frequent. There is a significant incidence of associated peptic ulcers that is felt to be due to the secretion of tumor hormones. There is an association with other endocrinopathies and also with pernicious anemia as was seen in our patient. Carcinoids occur in all age groups with peak incidence between ages 50 and 70 and equally in the sexes. Gastric carcinoids are seldom functional or associated with the "carcinoid syndrome." If carcinoid syndrome occurs with gastric lesion, it may be slightly different from the usual system complex of flushing, watery diarrhea, abdominal pain, bronchospasm and right ventricular failure. The flushing that occurs is more prolonged, lobster-red in color, patchy in distribution and with the erythema showing serpiginous borders.

Radiographically (Fig. 1-A), these tumors appear as sharply delineated, intramural filling defects with a wide base or as large polypoid intraluminal masses. Ring shadows, filling defects and "bowler hat" signs can be seen.

These nodules frequently have an ulcerated surface despite their submucosal location. This feature is in contrast to extragastric carcinoids. The average diameter is said to be 2.0 cm, but they can be as large as 6.0 cm. These lesions are most common in the pylorus and antrum and along the greater curvature, although some articles mention prominence along the lesser curvature. Less common, these are found in the fundus and cardia, as seen in our patient. They may be multiple. Peristalsis, pulling on a polypoid protuberance, can result in pedicle formation and a pedunculated polyp with the Mexican hat sign and occur as in our case (Fig. 2). This resembles a mucosal abnormality. Calcification in the tumor as well as osteoblastic metastasis have been reported. Endoscopically, the tumor appears as a submucosal lesion or as an ulcerated polypoid lesion.

While most polyps of the stomach are mucosal abnormalities, submucosal processes can appear radiographically indistinguishable from mucosal lesions. Our case points out that when a single or multiple, sessile or pedunculated, mucosal or submucosal polyp is seen in the stomach, carcinoid should be considered.

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Extra-Adrenal Aortic Sympathetic Paraganglioma and Renal Artery Stenosis

(Continued from page 77)

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Simple Vulvectomy in Modern Gynecology

(Continued from page 80)

plakia." It is true that some but not all white lesions are associated with vulvar epidermoid cancer. Likewise, some but not all vulvar neoplasms are white lesions.[5, 6]

Basal cell cancer of the vulva rarely causes death, and unnecessary radical surgery may lead to morbidity or mortality. Wide local excision with adequate margins is adequate in many cases. However, like carcinoma in situ and Paget's disease, basal cell carcinoma may be multicentric and can recur. Therefore, simple vulvectomy to insure a good specimen offers certain advantages, but is probably too radical a procedure.

Summary

In summary, 88% of the patients at the University of Iowa Hospitals were cured by initial simple vulvectomy, and the disease was eradicated in all patients when combined with wide local excision of any persistent or recurrent lesions. Our data indicate that this mode of treatment is effective for treatment of specific pre cancerous lesions and low-grade localized malignancies of the vulva. There were no deaths and morbidity associated with the procedure was minimal.

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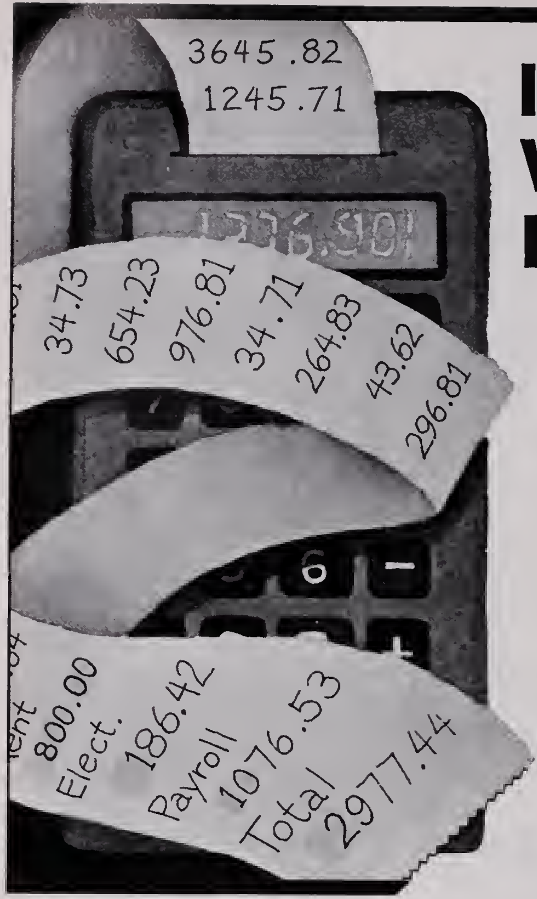
Scientific programs scheduled for the 1984 MSMA Convention in St. Louis are approved by the Missouri State Medical Association for Category I Continuing Medical Education. They also are acceptable for Prescribed and Elective hours by the American Academy of Family Physicians.



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President's Message

THERE IS A TIME

Amid all the cannibals who would eat our time, there must be a moment for introspection and evaluation in an attempt to better allocate this precious commodity. You are busy with the practice of medicine. You scrounge for the time for family activities. There must be time for basic social and community activities. There must be a time for orientation and planning.

Ronald A. Youmans, M.D.

TAKE TIME to examine the goals and objectives. Some will be personal. Include support for your community, your church and your professional organizations. What would you like to see them do? How can you be helpful in accomplishing their functions?

TAKE TIME for recognition of responsibilities and rededication to the basic principle of living The Golden Rule. Obviously, this will include honesty, kindness, understanding and compassion when working with complex medical problems of our patients as well as working with our colleagues. There must be a sense of fairness in all our concerns.

TAKE TIME to remember the principles of medicine, to do no harm, to be well informed. Take time for rapport. There is no technology, no business, no economic system that will replace the physician/patient relationship.

TAKE TIME to be aware that medicine has been through an era of witchcraft in antiquity, an era of art, an era of gentle regulation by law, an era of science, an era of technology, an era of business and we now seem to be approaching an era of rigorous regulation by law. How can any system survive satisfactorily when the payor is not the utilizer? How can those discussing problems in the board room or the bargaining table or the government agency find a decision that is appropriate for the next specific patient and his problem? Obviously, the patient would like comfort and relief. The payor's concern has become pecuniary.

TAKE TIME to plan. One cannot plan too carefully. Obviously, the details of every plan cannot be anticipated, but the plan should point a direction for action. For effective planning, plan as though you were planning for someone else to accomplish the task. This will minimize your hesitancy to commit yourself to more time obligations.

TAKE TIME to support your elective representatives in medicine. Take time to make your needs known to them. Provide alternative solutions for apparently impossible problems. As you attend committee functions, you will find problems of which you were not aware. Be prepared to participate in discussion rather than simply attend these vital work sessions.

TAKE TIME to approach the tremendous staff of your local society, the Missouri State Medical Association and the AMA. They work hard to maintain circumstances that will facilitate your ability to provide the best medical care in the world.

MSMA Auxiliary

1984 ANNUAL CONVENTION-BENEFIT AUCTION VI

As the new calendar year begins, our thoughts return to our successful activities of the past year and we look forward to our accomplishments and challenges yet to come in 1984.

The 1984 Missouri State Medical Association Auxiliary Convention is just around the corner. We all anticipate great experiences in St. Louis.

Benefit Auction VI for the MSMF and AMA-ERF is a *special time* for fun and fellowship when members of both the Medical Association and Auxiliary "get together" to enjoy the fun and fellowship that accompanies this worthy cause — providing additional, needed financial assistance to both funds. What better way could there be to sustain and provide for the future of the medical profession while assisting deserving medical students via special financial loan assistance.

Please know that this exciting event is planned for *all* members of the Medical Association and Auxiliary. We hope that you will be interested in attending and donating an item for the auction.

Mrs. Donald Sanders
President

The Auxiliary program will place special emphasis on the important subject of "Child Abuse" at the Saturday morning meeting. Armand E. Brodeur, M.D. of St. Louis will be the speaker. The problem of child abuse is drawing more concern and attention with each day, but it is a subject about which we are all not well informed. It is a broad subject and only the tip can be touched at this time. We hope, however, that it will stimulate each of us to seek more knowledge and inspire us all to become more personally involved in helping to solve this tragic problem.

It will be our privilege to have as special convention guests and speakers Mrs. Edward Szewczyk, North Central Regional Vice-President of the AMA Auxiliary, and Mrs. William Reardon of the Southern Medical Association Auxiliary.

Auxiliary members look forward to the *Awards Luncheon* on Friday when the hard work and accomplishments of our county medical society auxiliaries are recognized. The *Installation Luncheon* on Saturday also is rewarding and inspirational as we see the newly installed leaders step in to take over the helm with their enthusiasm and new concepts.

We welcome MSMA members who might be interested in observing our meetings and hope to "Meet Ya in St. Louis"!

Preliminary Program

MISSOURI STATE MEDICAL ASSOCIATION

126th Annual Convention

Marriott's Pavilion Hotel, St. Louis — March 29-April 1, 1984

WEDNESDAY, MARCH 28

10:00 AM-
1:00 PM MOMEDICO Board of Directors and Stockholders Meeting. Hawthorne Room III.

THURSDAY, MARCH 29

8:00 AM **Registration of Delegates.** Main Lobby.
10:30 AM **House of Delegates Meeting,** Opening Session. Pavilion Ballroom Salons A-D.
12:00 NOON Jackson County Medical Society Luncheon. Pavilion II & III.
12:00 NOON St. Louis Metropolitan Medical Society Luncheon. Pavilion Ballroom Salons E-G.
1:00 PM Reference Committee Meetings:
Senator Suite.
Diplomat Room.
Consul Room.
5:30-
6:30 pm *Reception* honoring James M. Stokes, M.D., MSMA President-Elect, and Mrs. Richard Bowles, MSMA Auxiliary President-Elect. Pavilion Ballroom Salons A-C.
6:00 PM Missouri State Surgical Society Board of Directors Cocktails and Dinner. Pavilion I.
6:30 PM Missouri Psychiatric Association Dinner. Governor Suite.
"Strategic Planning for Psychiatry."
Speaker: Mel Sabshian, M.D., Medical Director, American Psychiatric Association, Washington, D.C.
6:30 PM MSMA Auxiliary Sixth Annual Benefit Auction for the MSMF and AMA-ERF. Pavilion Ballroom Salons D-G.

FRIDAY, MARCH 30

7:00 AM MSMA Councilor District Breakfasts:
District No. 1, Envoy Room.
District No. 2, Ambassador Room.
District No. 4, Pavilion Ballroom Salon G.
District No. 5, Pavilion III.
District No. 6, Senator I.
District No. 8, Pavilion II.
District No. 9, Senator II.
District No. 10, Pavilion I.
7:45-
10:00 AM Complimentary Coffee and Rolls. Hawthorne Ballroom.
8:00 AM **Registration.** Main Lobby.
8:30 AM Missouri University Board of Directors Breakfast and Meeting. Fort San Carlos Room.
9:00-
10:30 AM General Session. Pavilion Ballroom Salons A-C.
9:00 *"Risk Management."* MOMEDICO.
9:40 *"The DRG Experience in New Jersey."*
Speaker: James S. Todd, M.D., AMA Trustee, Ridgewood, N.J.
10:30 AM **Intermission to View Exhibits.** Hawthorne Ballroom.
11:00 AM-
12:30 PM *Scientific Program.* Sponsored by the Missouri Society of Internal Medicine. Envoy Room.
"New Developments in End-Stage Renal Disease."
Speaker: Hershel Harter, M.D., Associate Professor of Medicine, Washington University; Director, Chromalloy American Kidney Center, St. Louis.
11:00 AM-
12:30 PM *Scientific Program.* Sponsored by the Missouri Thoracic Society and the American Lung Association, Pavilion Ballroom Salon F.
Annual Charles A. Brasher, M.D., Medical Lectureship.
"The Environment and Lung Diseases."
Speaker: Jerry Kirby, M.D., Professor of Pulmonary Disease, Kansas University Medical Center, Kansas City, Kan.

11:00 AM-12:30 PM *Scientific Program*. Sponsored by the Missouri State Surgical Society. Pavilion Ballroom Salon E.
SURGERY OF THE HEART.
"Surgery of Cardiac Arrhythmias."
Speaker: James Cox, M.D., Professor of Surgery (Cardiothoracic), Head of Division, Washington University School of Medicine, St. Louis.
"Coronary Bypass Surgery — Current Status."
Speaker: John Conners, M.D., Director, Division of Cardiothoracic Surgery, Jewish Hospital; Associate Professor of Surgery (Cardiothoracic), Washington University School of Medicine, St. Louis.
"Cardiac Transplantation."
Speaker: John Codd, M.D., Professor of Surgery, St. Louis University School of Medicine.
Moderator: William Sasser, M.D., St. Louis.

11:00 AM-12:30 PM *Scientific Program*. Sponsored by the American Heart Association, Missouri Affiliate, Inc., Pavilion Ballroom Salon A.
"Heart Health Project — Community Approaches to Patient Eating Changes."
Speaker: Rebecca Mullis, Ph.D., School of Public Health, Division of Epidemiology, University of Minnesota, Minneapolis.

11:00 AM-12:30 PM *Scientific Program*. Sponsored by the Missouri Urological Society, Senator II Room.
"New Method in Treatment of Kidney Stone's Disease."
"Impotency."
"Stress and Continence."

12:00 NOON Missouri Dermatological Society, Inc. Board of Directors Luncheon and Meeting. Ambassador Room.

12:30 PM Missouri University Medical Alumni Luncheon. Pavilion Suite.

12:30 PM MSMA Committee on the Impaired Physician Luncheon. Senator I Room.

12:30 PM Jackson County Medical Society Luncheon. Pavilion East Foyer.

12:30 PM Student Councilor District Luncheon. Pavilion Annex.

1:00-4:30 PM *Scientific Program*. Sponsored by the Missouri Dermatological Society, Inc., Pavilion Ballroom Salon F.
1:00 *Introductions*. James Roller, M.D., President, Missouri Dermatological Society, Inc.
1:05 *"Cosmetics."*
Speaker: Marianne N. O'Donoghue, M.D., Associate Professor of Dermatology, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Ill.
2:00 *"Case of the Year."*
Speaker: Daniel J. Santa Cruz, M.D., Pathologist, Barnes Hospital, St. Louis.
3:00 Refreshment Break.
3:15 *"Pigmentation Disorders."*
Speaker: Marianne N. O'Donoghue, M.D.

2:00 PM St. Louis Metropolitan Medical Society Caucus. Pavilion II & III.

2:00-3:30 PM *Scientific Program*. Sponsored by the Missouri Society of Internal Medicine. Envoy Room.
"Drug Interaction in the Pulmonary Disease Patient."
Speaker: Peter G. Tuteur, M.D., Associate Professor of Medicine, Pulmonary Disease Division, Washington University School of Medicine, St. Louis.

2:00-3:30 PM *Scientific Program*. Sponsored by the Missouri State Surgical Society. Pavilion Ballroom Salon G.
ADVANCES IN PLASTIC SURGERY.
"The Surgical Advances in the Treatment of Cranial and Orbital Malignancies Suction Assisted Lipectomy."
Speaker: Ian Jackson, M.D., Head of Section of Plastic and Reconstructive Surgery, Mayo Clinic; Professor of Plastic Surgery, Mayo Medical School, Rochester, Minn.
"Breast Reconstruction After Mastectomy with Vascularized Abdominal Fat."
Speaker: Carl Hartrampf, M.D., Associate Clinical Professor of Plastic Surgery, Emory University School of Medicine, Atlanta, Ga.
"Microsurgical Reconstruction of the Upper Extremity."
Speaker: C. Lin Puckett, M.D., Professor and Chief, Division of Plastic Surgery, University of Missouri-Columbia School of Medicine.
Moderator: John Buettner, M.D., St. Louis.
Business meeting immediately following Scientific Program.

2:00-3:30 PM *Scientific Program*. Sponsored by the Missouri Society of Pathologists. Pavilion Ballroom Salon E.

2:00 *"Acquired Immune Deficiency Syndrome (AIDS) Update."*
Speaker: Edwin Ewing, M.D., Communicable Disease Center, Atlanta, Ga.
2:45 *"Current Topics in Public Health (Asbestosis, Vinyl Chloride, Toxicities Associated with Plastics Fires, etc.)"*
Speaker: George Gantner, M.D., Forensic Pathology Department, St. Louis University School of Medicine.
Moderator: Paul S. Quinn, M.D., Springfield.

2:00-3:30 PM *Scientific Program.* Sponsored by the Missouri Chapter, American Academy of Pediatrics. Senator Suite.
"Common Dilemmas in the Care of the Newborn — Case Presentations."
Speaker: William Keenan, M.D., Professor of Pediatrics, Director of Neonatal Services, Cardinal Glennon Memorial Hospital for Children, St. Louis.

2:30-4:00 PM Missouri State Medical Foundation Annual Meeting. Pavilion Ballroom Salons A-D.

3:00 PM MISSOURI MEDICINE Publication Committee Meeting. Pavilion I.

3:30-4:00 PM **Intermission to View Exhibits.** Hawthorne Ballroom.

4:00 PM **House of Delegates, Second Session.** Pavilion Ballroom Salons A-D.

6:00 PM Reference Committee Meetings:
Senator Suite.
Governor Suite.

6:00-7:30 PM St. Louis University Alumni Reception. Pavilion Suite.

6:00-7:30 PM Washington University Alumni Reception. Pavilion Ballroom Salons E-G.

6:30 PM Missouri Society of Pathologists Cocktails and Dinner. Pavilion Ballroom Salon A.

6:30 PM Missouri Dermatological Society, Inc. Cocktails and Dinner. Pavilion Ballroom Salon B.

6:30 PM Missouri Society of Anesthesiologists Cocktails and Dinner. Pavilion Ballroom Salon C.

7:00 PM Missouri Ophthalmological Society, Inc. Board of Directors Dinner. Envoy Room.

SATURDAY, MARCH 31

7:00 AM Councilor District No. 10 Breakfast. Pavilion I.

7:30 AM MSMA Auxiliary Public Affairs Breakfast. Pavilion Ballroom Salons F & G.

7:30 AM Missouri Society of Anesthesiologists Executive Committee Breakfast. Senator I Room.

7:30 AM Missouri Society of Anesthesiologists Breakfast. Governor I Room.

7:30 AM Missouri Ear, Nose and Throat Association, Inc. Breakfast and Business Meeting. Envoy Room.

7:30 AM-5:00 PM American Academy of Dermatology Postgraduate Course. Pavilion Ballroom Salon A.

7:45-10:00 AM Complimentary Coffee and Rolls. Hawthorne Ballroom.

8:00 AM **Registration.** Main Lobby.

8:00 AM-12:00 NOON *Scientific Program.* Sponsored by the Missouri Section of ACOG and Eli Lilly and Company. Pavilion Ballroom Salon E.
Infectious Disease Seminar.
"Evaluation and Management of Pelvic Inflammatory Disease."
Speaker: Sebastian Faro, M.D., Ph.D., Associate Professor, Director, Section of Infectious Diseases, Department of OB/GYN, Baylor College of Medicine, Houston, Tex.
"Diagnosis and Treatment of Postoperative OB/GYN Infections."
Speaker: Stanley A. Gall, M.D., Professor of OB/GYN, Director of the Division of Perinatal Medicine, Associate Professor of Immunology, Duke University Medical Center, Durham, N.C.
"Infections in the Pregnant Patient"
Speaker: Robert A. Knuppel, M.D., M.P.H., Associate Professor, Department of OB/GYN, Director, Division of Maternal Fetal Medicine, University of South Florida College of Medicine, Tampa, Fla.
Moderator: George Fuchs, M.D., Columbia.

8:30 AM-12:00 NOON *Scientific Program.* Sponsored by the Missouri Ophthalmological Society, Inc., Fort San Carlos Room.
"Current Techniques in Inter-Ocular Lens Implants."

9:00-10:30 AM *Scientific Program.* Sponsored by the American Cancer Society, Missouri Division, Inc. Senator II Room.
"Current Care and Management of Gynecological Oncology."

9:00-
10:30 AM *Scientific Program*. Sponsored by the Missouri Ear, Nose and Throat Association, Inc. Pavilion III.

9:00-
11:50 AM *Scientific Program*. Sponsored by the Missouri State Allergy Association. Ambassador Room.

9:00 *Greetings, Announcements and Introductions:* T. Reed Maxson, M.D., President, Missouri State Allergy Association.

9:05 *"New and Old Vaccines."*
Speaker: Joseph A. Bellanti, M.D., Director of Interdisciplinary Studies, Georgetown University School of Medicine, Washington, D.C.

10:00 *Refreshment Break.*

10:15 *"Sinusitis and Bronchial Asthma."*
Speaker: Jeffrey M. Wright, M.D., St. Louis University School of Medicine.

10:45 *"Subclasses of IGG and their Clinical Relevance."*
Speaker: Scott Frankel, M.D., Washington University School of Medicine, St. Louis.

11:15 *Open Dialogue.*
Panelists: Joseph A. Bellanti, M.D., Jeffrey M. Wright, M.D., and Scott Frankel, M.D.
Moderator: T. Reed Maxson, M.D., Warrensburg.

9:00 AM-
12:00 NOON *Scientific Program*. Sponsored by the Missouri Society of Anesthesiologists. Governor I Room.
"Clinical Risks for Anesthesia and Surgery."
Speaker: Robert Vaughn, M.D., Professor and Chairman of Anesthesiology, University of North Carolina, Chapel Hill.

9:00 AM-
12:00 NOON *Scientific Program*. Sponsored by Physical Medicine and Rehabilitation. Pavilion II.

9:00 *"Differential Diagnosis of Polyneuropathies."*
Speaker: Werner T. Trojaborg, M.D., Laboratory of Clinical Neurophysiology, Copenhagen, Denmark.

10:30 *"Preservation of Health and Fitness of Aging Individuals."*
Speaker: Franz U. Steinberg, M.D., Jewish Hospital of St. Louis and Washington University School of Medicine, St. Louis.

11:00 *"Use of Hemilock Harness in Patient with Trapezius Paralysis."*
Speakers: Aly M. Mohsen, M.D., Melvin Karges, M.D. and Mohamed A. Medhat, M.D., University of Kansas Medical Center, Kansas City, Kan.

11:20 *"Rehabilitation of an Amputee with Visual Agnosia Due to Stroke."*
Speakers: A. Dinghra, M.D. and R. Smith, M.D., Rusk Rehabilitation Center, University of Missouri-Columbia.

11:40 *"Osteomyelitis of the Symphysis Pubic Due to Inadequate Catheter Drainage."*
Speaker: John A. Gragnani, M.D., St. Louis.
Moderator: Otakar Machek, M.D., St. Louis.

9:30 AM **Discuss the Issues With Your AMA Delegates.** Envoy Room.

10:30 AM **Intermission to View Exhibits.** Hawthorne Ballroom.

11:00 AM-
12:30 PM *Scientific Program*. Sponsored by the Missouri Academy of Family Physicians. Pavilion Suite III.
"Sports Medicine, Prevention and Treatment of Injuries, Especially in the High School Athlete."
Speaker: Jon Browne, M.D., Kansas City.

11:00 AM-
12:30 PM *Scientific Program*. Sponsored by the Missouri State Surgical Society. Pavilion I.
ENDOCRINE SURGERY.
"Carcinoid Syndrome."
Speaker: Bernard Jaffe, M.D., Professor and Chairman, Department of Surgery, Downstate Medical Center, Brooklyn, N.Y.
"Hyperparathyroidism."
Speaker: Lawrence W. O'Neal, M.D., Associate Professor of Clinical Surgery (General), Washington University School of Medicine; Chief, Department of Surgery, St. John's Mercy Medical Center, St. Louis.
"Surgery of the Adrenal Gland."
Speaker: Samuel Wells, M.D., Bixby Professor of Surgery, Washington University School of Medicine, St. Louis.
Moderator: George Tucker, M.D., St. Louis.

11:00 AM-12:30 PM Missouri Radiological Society Board of Directors Meeting. Senator I Room.

12:00 Noon Missouri Society of Anesthesiologists Luncheon and Business Meeting. Pavilion Ballroom Salon G.

12:00 Noon Missouri State Allergy Association Luncheon. Pavilion East Foyer.

12:00 Noon Missouri State Neurosurgical Society Luncheon. Senator II Room.

12:00 Noon Missouri Section ACOG Luncheon. Envoy Room.

12:00 Noon American Medical Women's Association Luncheon. Pavilion Ballroom Salon F.

12:00 Noon Missouri Ophthalmological Society, Inc. Luncheon. Pavilion Ballroom Salon C.

12:00 Noon American Academy of Dermatology. Lunch Break.

12:00 Noon Physical Medicine and Rehabilitation Luncheon, Business and Board Meeting. Pavilion Ballroom Salon B.

12:30 PM Missouri Radiological Society Luncheon. Pavilion Ballroom Salon C.

1:30-3:00 PM Missouri Section ACOG Advisory Board Meeting. Pavilion Ballroom Salon E.

1:30 PM Intermission to View Exhibits. Hawthorne Ballroom.

1:30 PM Missouri Medical Political Action Committee Meeting. Pavilion I.

1:30-3:50 PM *Scientific Program*. Sponsored by the Missouri State Allergy Association. Ambassador Room.

1:30 "*New and Old Food Allergy Testing Procedures*."
Speaker: Robert J. Dockhorn, M.D., Pediatric Allergist, Shawnee Mission, Kan.
2:00 "*Seldom Asked Questions About Allergy Skin Testing*."
Speaker: Daniel Hamilos, M.D., Washington University School of Medicine, St. Louis.
2:30 "*Stinging Insect Sensitivity*."
Speaker: Timothy Lind, M.D., St. Louis University School of Medicine.
3:00 Refreshment Break.
3:15 *Open Dialogue*.
Panelists: Robert J. Dockhorn, M.D., Daniel Hamilos, M.D. and Timothy Lind, M.D.
Moderator: T. Reed Maxson, M.D., Warrensburg.

1:30-4:00 PM *Continuation of Scientific Program*. Sponsored by the Missouri Ophthalmological Society, Inc., Fort San Carlos Room.

2:00-3:30 PM *Scientific Program*. Sponsored by the American Academy of Family Physicians and Mead Johnson Pharmaceutical Division. Pavilion III.
"*Differential Diagnosis and Pharmaceutic Treatment of Depression*."
Speaker: Robert E. Rakel, M.D., Professor of Family Practice, University of Iowa, Iowa City.

2:00-4:00 PM *Scientific Program*. Sponsored by the Missouri Radiological Society. Pavilion II.
Scientific Programs. Presented by the Department of Radiology, St. Louis University School of Medicine and Mallinckrodt Institute of Radiology, Washington University School of Medicine, St. Louis.

2:00-4:00 PM *Scientific Program*. Sponsored by the Missouri Society of Anesthesiologists. Governor I.
"*Impact of Changing Health Care Policies on Anesthesiologists*."
Speaker: Robert Vaughn, M.D., Professor and Chairman of Anesthesiology, University of North Carolina, Chapel Hill.

4:00-4:45 PM Missouri State Allergy Association Annual Meeting, Pavilion III.

5:00-6:00 PM Missouri University Alumni Reception. Pavilion Ballroom Salons A & B.

6:00-7:00 PM **Installation of Officers.** Pavilion Ballroom Salons D-G.

7:00-8:00 PM **MSMA Reception.** Hawthorne Ballroom.

SUNDAY, APRIL 1

7:30 AM **House of Delegates Breakfast and Final Session.** Pavilion Ballroom Salons D-G.

9:00-11:30 AM *Scientific Program*. Sponsored by the Missouri Dermatological Society, Inc.
Clinical Case Presentations, St. John's Mercy Medical Center, St. Louis.
10:00 Refreshment Break.
10:30 Discussion of Clinical Patients.
11:00 General Meeting.

126th Annual Convention

COMMERCIAL EXHIBITORS LIST

March 29-April 1, 1984 **Marriott's Pavilion Hotel, St. Louis**

Booth	*Exhibitors*
21	Adria Laboratories Columbus, Ohio
4-5	C. W. Alban & Company, Inc. St. Louis
12	American Business Machines Company Springfield
29	Automated Professional Management, Inc. St. Louis
20	Avis Rent A Car St. Louis
40	Blue Shield — St. Louis & Kansas City St. Louis
42	Boehringer Ingelheim Ltd. Ridgefield, Conn.
2	Computer Professionals Inc. Kansas City
45	Dodson Insurance Group Kansas City
33	Encyclopaedia Britannica, USA Chicago, Ill.
15	Forrest T. Jones Company, Inc. Kansas City
9	Fred S. James & Company of Missouri, Inc. Clayton
11	Future Innovations Springfield
35-36	General American/Medicare St. Louis
24	Glaxo, Inc. Dallas, Tex.
14	Health Resources, Ltd. Kansas City
28	Kagin's Numismatic Investment Corp. Des Moines, Iowa
1	The Key Company St. Louis
6	Keyamawun Lodge Deer Lake, Ontario
10	Medical Defense Associates Springfield
13	The Medical Protective Company Fort Wayne, Ind.
25	Mercantile Trust Company St. Louis
26	Merck Sharp & Dohme West Point, Penn.
38	Metpath, Inc. Watertown, Wis.
7	Mid-America Computing Shawnee Mission, Kan.
37	Missouri Cancer Control Program Missouri Cancer Registry Columbia
18	Missouri Division of Health/Bureau for Prevention of Mental Retardation Jefferson City
8	Missouri Medical Insurance Company St. Louis
46-47	Missouri State Medical Association Jefferson City
34	Paintings Unlimited Ballwin
44	Parke-Davis Morris Plains, N.J.
23	Pfizer Laboratories New York, N.Y.
19	St. Luke's Hospital of Kansas City Kansas City
41	W. B. Saunders Publishing Philadelphia, Penn.
30	Searle Laboratories Chicago, Ill.
27	Seiler Instrument St. Louis
43	SmithKline Clinical Laboratories St. Louis
22	Smith Kline & French Laboratories Philadelphia, Penn.
17	E. R. Squibb & Sons, Inc. Princeton, N.J.
31	3M Vision Care Hinsdale, Ill.
3	United States Air Force St. Louis
32	U. S. Army Medical Department Washington, D. C.
39	U. S. Navy Medical Programs Kansas City
16	Varner Enterprises Overland Park, Kan.

In lieu of exhibits, the following firms have made cash donations to assist in the sponsorship of Scientific Sessions:

Bristol Laboratories
Syracuse, N. Y.

Eli Lilly and Company
Indianapolis, Ind.

Preliminary Program — 59th Annual Convention

MSMA AUXILIARY

Marriott's Pavilion Hotel, St. Louis March 29-March 31, 1984

Thursday, March 29

9:00 AM- 3:00 PM Auction Items Check-In. Ambassador Room.

10:00 AM- 4:00 PM Registration and Information. Main Lobby.

10:00 AM Auxiliary Report to the MSMA House of Delegates. Pavilion A-D.
Mrs. Donald C. Sanders, President, MSMA Auxiliary.
Auxiliary AMA-ERF Presentations to Missouri Medical Schools.

12:00 NOON Finance Committee Meeting. President's Suite.

3:30 PM Pre-Convention Board Meeting. Pavilion III.

5:30- 6:00 PM Reception honoring Mrs. Richard Bowles, MSMA Auxiliary President-Elect and James M. Stokes, M.D., MSMA President-Elect. Pavilion Ballroom, Salon A-C.

6:30 PM Sixth Annual MSMF/AMA-ERF Benefit Auction. Pavilion D-G.

Friday, March 30

7:15 AM State Past-President's Breakfast. President's Suite.

7:45-10 AM MSMA Complimentary Coffee and Rolls. Hawthorne Ballroom.

8:00 AM-NOON Registration and Information. Main Lobby.

8:30 AM General Assembly — Business Meeting. Pavilion Ballroom, Salon D.
Mrs. Donald C. Sanders, President, presiding.
Keynote Address: Mrs. Edward Szewczyk, Belleville, Ill., North Central Regional Vice-President, AMA Auxiliary.

11:30 AM Recess.

12:15 PM Awards Luncheon. Pavilion Ballroom, Salon D.

5:00- 6:00 PM Open House. President's Suite.

6:30 PM Dutch Treat Dinner. Meet in Marriott's Pavilion Lobby.

Saturday, March 31

7:30 AM Public Affairs Breakfast. Pavilion Ballroom, Salon F-G.

7:45-10:00 AM MSMA Complimentary Coffee and Rolls. Hawthorne Ballroom.

8:00 AM-12:00 NOON Registration and Information. Main Lobby.

9:00 AM General Assembly. Pavilion Ballroom, Salon D.
Mrs. Donald C. Sanders, President, presiding.
10:15 AM *Presentation on Child Abuse.*
Speaker: Armand E. Brodeur, M.D., St. Louis.

11:30 AM Recess.

12:00 NOON Installation Luncheon. Pavilion Ballroom, Salon D.

2:00 PM Post-Convention Board Meeting, Pavilion Ballroom, Salon D.
Mrs. Richard Bowles, President, presiding.

6:00- 7:00 PM Installation of MSMA Officers. Pavilion Ballroom, Salon D-G.

7:00- 8:00 PM MSMA Reception. Hawthorne Ballroom.

CONTRIBUTORS
Please register
your DONATIONS
in advance
with:

Mrs. William Huffaker
134 Pinehurst Estates Dr.
St. Louis 63141
(314) 576-3878

You'll have a great time at the MSMA Auxiliary

SIXTH AMA-ERF/MSMF

BENEFIT AUCTION

Thursday, March 29 **Pavilion Rooms D-G**

- *Wonderful Bargains*
- *Refreshments Available*

THIS AD

won't tell you anything you don't already know

unless...

. . . you didn't realize just how expensive medical education is today. The average first-year resident owes almost $22,000 in student educational loans alone.

The Missouri State Medical Foundation — MSMF — was created by the Missouri State Medical Association for the express purpose of giving financial assistance to deserving young Missourians who will be tomorrow's doctors.

As other loan sources become less available, the Foundation is growing into one of the major sources of loans for aspiring physicians.

It is the privilege — and responsibility — of physicians in practice to see that medical education funds are available to the young men and women who are well-qualified to study medicine, but need financial assistance.

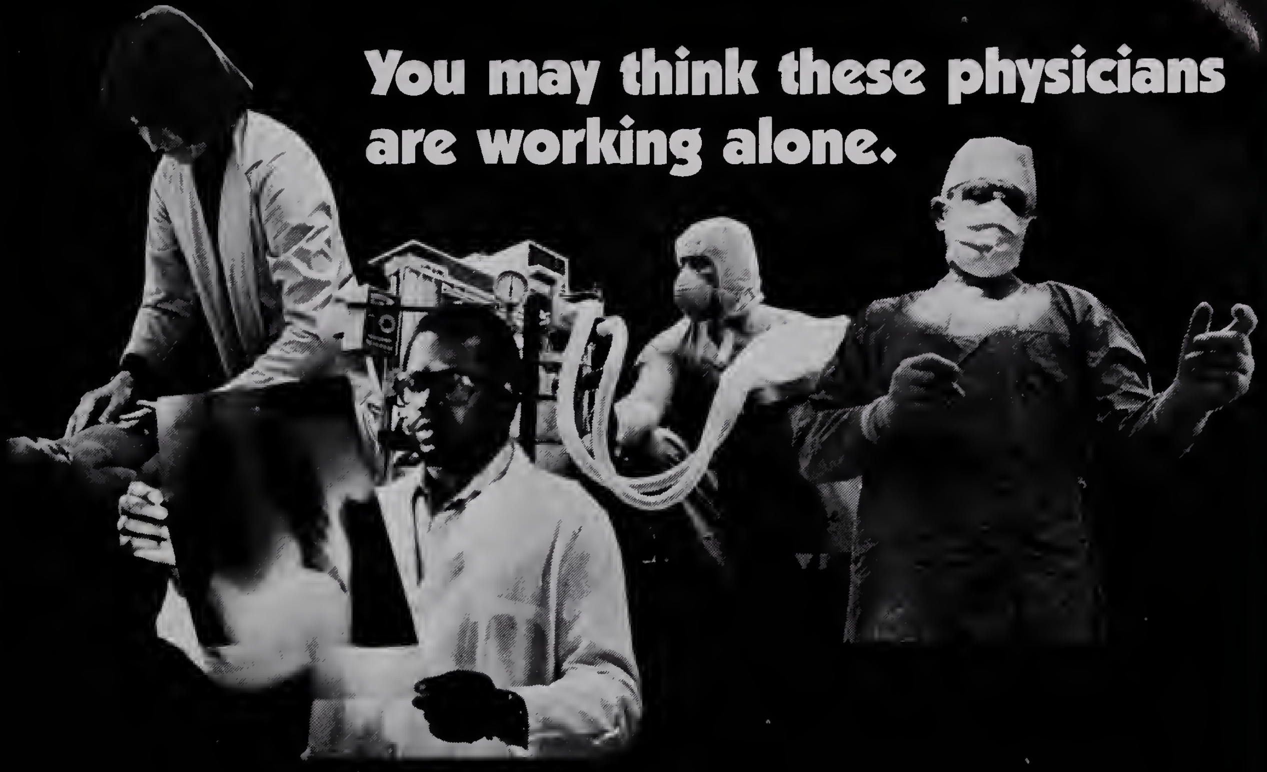
Won't you give? Send a check today to MSMF.

And . . . Contribute by attending the
BENEFIT AUCTION
at 6:30 pm on Thursday at the 1984 Annual Convention.

MISSOURI STATE MEDICAL FOUNDATION
113 Madison St. • P.O. Box 1028
Jefferson City, MO 65102
314/636-5151

• SPONSORED BY THE MISSOURI STATE MEDICAL ASSOCIATION •

The Missouri State Medical Foundation is classified by the Internal Revenue Service under Section 509(a)(3). Individuals may deduct up to 50% of their adjusted gross income for contributions made to the MSMF.


You may think these physicians are working alone.

But they really have a team behind them.

These physicians spend most of their day working independently in a one-to-one doctor/patient relationship. And chances are that as a physician, you do too.

But even though you can't see it, there's a strong team supporting and protecting the medical profession, affecting your practice while you see patients, research new drugs or perform surgery. That team consists of *your medical societies.*

The American Medical Association and your state and county medical societies believe in the value of teamwork; that only by working together can we, in the face of an increasingly complex professional environment, protect your right to make responsible decisions on how to practice medicine.

We also believe that all medical societies — county, state, and national — have certain tasks that the individual physician couldn't possibly assume — and shouldn't have to.

Tasks such as keeping government regulations from interfering with your practice by representing your interests at local and national levels. And challenging regulatory measures that threaten you and your patients' interests by mounting legal campaigns to defend your rights — up to the Supreme Court if necessary.

Why do we believe that *teamwork* means so much to *all* physicians — even those who work "alone"?

Because ... IT WORKS.

Join Your Medical Societies Today.

For more information, contact your state or county medical societies, or call the AMA collect at 312/751-6196. Or return the coupon below to your state or county medical society.

☐ Please send me information on AMA, county, and state society membership.

☐ I am a member of my county and state societies; please send me information on joining the AMA.

Name ______________________________

Street ______________________________

City ______________ State ______________ Zip ______________

County ______________________________

American Medical Association
Continuing
Medical Education
AWARD

MSMA Members Receive Physician's Recognition Award

Twenty-five MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of December, 1983.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in MISSOURI MEDICINE as they are received from the AMA.

John L. Barton, Cape Girardeau
Philip A. Boyer, Cleveland
Alton D. Brookreson, Poplar Bluff
Richard R. Cohle, Carthage
Timothy T. Dalton, Kansas City
William D. Dixon, Kansas City
J. Larry Dowell, Strafford
Josiah O. Ekunno, St. Louis
Calvin E. Engelmann, Kansas City
David L. Gifford, Mexico
Robert W. Hamill, Kansas City
E. Jerome Hanson, Kansas City
Harold R. Henstorf, Columbia
A. Hooshmand-Mehrjardi, Jefferson City
Daniel J. Lauer, Kansas City
Marvin E. Levin, St. Louis
Harvey R. Michael, Springfield
Keith G. Saxon, Liberty
Thomas L. Schmidt, Kansas City
Mohammad Shakil, Cape Girardeau
Alexander J. Steiner, Clayton
William P. Svancarek, St. Louis
Stephen C. Tines, St. Joseph
Pio M. Vilar, Chesterfield
David G. Wood, Kansas City

Physician Computer Systems (PCS) Medical Billing

Physicians' offices and billing departments will benefit greatly from the increased efficiency provided by the medical billing system.

Simply put, the medical billing system is a management system. Once in place, the system can be justified in labor savings by smoothing financial procedures and by eliminating duplication during the clerical process.

Physician service benefits

Patient registration: The system will assist your office staff by collecting and storing financial information and demographics about your patients and by assigning an encounter number and producing an encounter form for the chart file.

Patient charges: The system automatically prices charges based on treatment codes and prints an encounter summary for your use.

Patient bills: Your office efficiency will increase with the use of the system's electronic Medicare billing and the provision of monthly statements and all government agency and insurance billing forms.

Payment posting: The system applies payment and adjustments by either name or number and prints registers to assist in balancing deposits.

Bad debt collection: The system will help you in the collection process by providing "aged" reports and generating collection letters automatically.

Reporting capabilities: Financial analysis is assisted tremendously by a complete set of management reports generated by the medical billing system.

Contact:

Physician Computer Systems
1600 E. Broadway
Columbia, MO 65201
314-875-3800

Boone Hospital Center

1600 E. Broadway
Columbia, Missouri 65201

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
Contact: Joy W. Barnett, CME Coordinator

(1984)	
Apr. 14	Spring Symposium — Breast Cancer

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: Weldon D. Webb, M.D., Director

Mar. 16	Preceptor's Day
Mar. 17-18	Family Practice Update
Mar. 22-23	30th Annual Urology Seminar (Westin Crown Center, Kansas City)
Apr. 12-14	Improving Index of Cancer Chemotherapy (Westin Crown Center, Kansas City)
Apr. 17-18	Seventh Annual Primary Pediatrics for the Primary Physician
Apr. 27-28	Third Annual Clinical Conference on Arthritis
May 11-13	Seventh Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
Contact: Mrs. Judi Kramer, Coordinator

(1984)	
May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
Contact: Felix E. F. Larocca, M.D.

(1984)	
Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
Contact: Loretta Giacoletto, Office of CME

Mar. 5-May 21	Internal Medicine Review (The Jewish Hospital)
Mar. 16-17	Craniofacial Imaging
Apr. 12-13	Care of the Aging Patient
Apr. 26-27	11th Annual Symposium on Obstetrics and Gynecology
May 3-5	WUMC Alumni Reunion
May 11-12	PNP Update 1984
May 21-25	Diagnostic Interview Schedule Training
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: Ronald G. Evens, M.D., Director

Mar. 12	City-Wide Radiology Conference on "NMR"
Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

Mar. 15-16	Critical Care (Alameda Plaza Hotel)
Mar. 17-24	Traveling Medical Education Course — Kansas City Southwest Clinical Society (Breckenridge, Colo.)
Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

St. Luke's Hospital of Kansas City
Wornall Rd. at 44th, Kansas City 64111
(816) 932-2220
***Contact:* The Center for Continuing Education**

May 10-12	Fourth Annual Symposium on Advanced Heart Disease

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

Mar. 1-2	The Microcomputer Jungle: Impact on Health Care
Mar. 5-6	Annual Cardiology Postgraduate Symposium
Mar. 15	Sports Medicine: Rehabilitation of the Injured Athlete (Westin Crown Center Hotel, Kansas City)
Mar. 15-16	Advanced Trauma Life Support
Mar. 16-17	Midwest Pain Society 8th Annual Meeting: Practical Management of Common Pain Syndromes (Westin Crown Center Hotel, Kansas City)
Mar. 18-25	Review and Update in General Pediatrics and Family Practice (Princess Hotel, Grand Bahamas)
Apr. 5-6	Current Practices in Surgery
Apr. 9-10	Pediatric Emergencies
Apr. 13	Pediatric Ophthalmology
Apr. 14	Annual Pathology Scientific Semianr
Apr. 15-18	American Association of Endocrine Surgeons Annual Meeting (Alameda Plaza Hotel, Kansas City)
Apr. 19-20	Ventilation/Perfusion and Gas Exchanges: A Physiologic Approach (Granada Royale Hometel, Kansas City)
Apr. 24-25	Tenth Annual Postgraduate Family Practice Symposium
Apr. 26-27	Advanced Trauma Life Support
Apr. 27	29th Annual Infectious Diseases Symposium
Apr. 27-29	34th Annual Postgraduate Symposium on Anesthesiology
May 7-8	Total Management of the Acute Myocardial Infarction
May 10-12	Musculoskeletal Tumor Society Meeting (Alameda Plaza Hotel, Kansas City)
May 14-15	Pediatric Emergencies
May 17-19	Extracapsular Cataract Extraction — Implantation of Intraocular Lenses
May 21-22	Early Breast Cancer
May 24-25	Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 7-8	Advanced Trauma Life Support
July 26-27	Advanced Trauma Life Support

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000
***Contact:* Erich W. Pollak, M.D., Director of Surgical Education, for the following:**

4:00 PM — Basic Sciences to Surgery Seminar
(Monday through Friday)

3:00 PM — Surgical Rounds
(Every Wednesday and Friday)

4:00 PM — Surgical Techniques Seminar
(Every second and fourth Wednesday)

4:45 PM — Morbidity and Mortality Conference
(Every fourth Wednesday)

8:00 AM — Morbidity and Mortality Conference
(Every second Saturday)

7:00 AM — Surgical Grand Rounds
(First and third Thursdays)

***Contact:* David S. Sneid, M.D., Director of Medical Education, for the following:**

9:00 AM — Medicine Staff Conference
(First, third and fourth Tuesdays)

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Margaret Flynn, professor of family and community medicine, presented an invited paper in Munich, Germany at the European Organization for the Control of Circulatory Diseases symposium on "The Risk of Treating Risk Factors in Arteriosclerosis" recently.

Dr. William B. Bondeson, professor of philosophy and medicine and co-director of the Program in Health Care and Human Values, is the editor of *New Knowledge in the Biomedical Sciences,* which appears as Volume 10 in the Philosophy and Medicine Series published by Reidel. He also is editor and contributor to *Abortion and the Status of the Fetus* (Volume 13) in the Philosophy and Medicine Series. Both volumes are the results of international symposia on philosophy and medicine held at UMC and are sponsored by the Health Care and Human Values Program.

Dr. P. Kevin Rudeen, assistant professor of anatomy, has received a three-year grant of $150,565 from the National Institute of Alcohol and Alcohol Abuse for a study of "Cellular Correlates of Perinatal Neuroendocrinopathies." The objective of the investigation is to examine the effects of maternal alcohol treatment in perinatal differentiation of the sexually dimorphic nucleus of the preoptic area (SDN-POA).

Dr. Willis K. Paull, Jr., professor of anatomy, has received a three-year grant of $184,183 from the National Institutes of Health for a study of "Corticotropin Releasing Factor Neuroendocrine Systems." The program of research in this investigation will employ correlative immunocytochemistry (both light and electron microscopic) and radio-immunoassay to delineate the corticotropin releasing factor (CRF) neuronal systems of the central nervous system.

Four School of Medicine faculty members participated in the annual meeting of the American Academy of Child Psychiatry in San Francisco. *Dr. Syed Arshad Husain,* professor of child psychiatry, was chairman for a panel discussion on "Behavioral Pediatrics: Can It Be Taught and Can It Be Practiced?" Panelists included *Dr. Guilio J. Barbero,* professor and chairman of the Department of Child Health.

Dr. Javad H. Kashani, associate professor of child psychiatry, presented a paper on "A Longitudinal Study of Childhood Depression," a report on a project involving 1,000 New Zealand children that was conducted in cooperation with the University of Otago, Dunedin, New Zealand.

Following the Academy meeting, *Dr. Walid O. Shekim,* associate professor of child psychiatry, is co-author of a paper he presented at the third High Point Hospital Symposium on Attention Deficit Disorder and Hyperactivity. The topic of the paper was "Psychoeducational Correlates of Catecholamine Metabolites in Hyperactive Boys."

WASHINGTON UNIVERSITY

Virginia V. Weldon, M.D., has been named chairman-elect of the Council of Academic Societies of the Association of American Medical Colleges (AAMC).

Dr. Weldon is deputy vice-chancellor for medical affairs at Washington University School of Medicine. She has been a representative to the Council of Academic Societies since 1976.

Dr. Weldon is vice-president of the Washington University Medical Center and professor of pediatrics at the School of Medicine. She also is on staff at Barnes and Children's hospitals. A specialist in pediatric endocrinology, she has studied mechanisms of abnormal growth in childhood. During her career at the medical school, she has served as assistant to the vice-chancellor for medical affairs, assistant director of the Clinical Research Center and co-director of the Division of Pediatric Endocrinology and Metabolism. She joined the faculty in 1968 as an instructor and was named professor of pediatrics in 1979.

A multidisciplinary center for research and treatment of the rare genetic skin disease, epidermolysis bullosa (EB), has been established at the School of Medicine.

The center was created at Washington University through a $25,000 donation from the Dystrophic Epidermolysis Bullosa Research Association (DEBRA), a national organization of patients, families and others concerned about the disease.

"Until very recently, EB was an enigma to the medical and scientific community," noted *Eugene A. Bauer,* M.D., professor of dermatology. He added, "Because there is little treatment and no known cure, EB patients often travel all over the world searching for unproven cures." The cost of medical care reaches as much as $10,000 yearly and often is not covered by insurance plans or state aid programs.

Patients at the Washington University EB Center are admitted to the School of Medicine's Clinical Research Center or to Children's Hospital, a sponsoring institution of the Washington University Medical Center. They are evaluated by a team of physicians and other health care personnel that focus on the special needs of EB patients such as infection, scarring, loss of movement in the major and minor joints, blood and protein loss through the skin, gastrointestinal scarring, eye problems and chronic malnutriton.

More information about epidermolysis bullosa is available through Washington University/ DEBRA Center for Research and Therapy of Epidermolysis Bullosa, Division of Dermatology, Box 8123, 4950 Audubon, St. Louis, MO 63110.

J. Regan Thomas, M.D., has been appointed assistant professor of otolaryngology at the School of Medicine.

Dr. Thomas is also on staff at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center. Before joining the Washington University faculty, he was assistant professor of otolaryngological surgery at the University of Missouri Medical Center.

He received the bachelor of arts degree from Drury College in 1968 and the M.D. degree from the University of Missouri School of Medicine in 1972. He completed a residency in surgery at Yale University and a residency in otolaryngology at the University of Missouri School of Medicine. He also served a fellowship in facial plastic surgery that was cosponsored by the American Academy of Facial Plastic and Reconstructive Surgery, Inc. and *M. Eugene Tardy*, M.D.

Lee N. Robins, Ph.D., professor of sociology in psychiatry, has received the 1983 Distinguished Leadership Award from the Mount Holyoke Club of St. Louis.

The award was presented recently at a public lecture given in her honor by *M. Elizabeth P. Tidball*, Ph.D., professor of physiology at George Washington University Medical Center. St. Louis area alumnae of Mount Holyoke College established the Distinguished Leadership Award in 1981 to recognize women who have made outstanding contributions in their fields or who have consistently upheld the highest professional standards. The award cannot be given to a Mount Holyoke graduate.

UNIVERSITY OF MISSOURI-KANSAS CITY

Raymond J. Caffrey, M.D., clinical associate professor of pathology and Year-1 docent at the Independence Sanitarium and Hospital, was recently elected president-elect of the Jackson County Medical Society. He will succeed *William J. Medlicott*, M.D., as president of the county society in 1985.

Angelo Taranta, M.D., professor of medicine and chief of the Rheumatology-Immunology Section at New York Medical College, was the 1983 St. Louis Friends of the UMKC School of Medicine Distinguished Lecturer. Dr. Taranta spoke on "The Spectrum of Systemic Lupus" before medical students, faculty and other health professionals on Nov. 22, 1983 at the School of Medicine. Dr. Taranta also presented a lecture earlier in the day to members of the Truman Medical Center Department of Medicine entitled "Whatever Happened to Rheumatic Disease?"

James J. Mongan, M.D., adjunct professor of Health Services Administration and executive director of the Truman Medical Center, has been named to a two-year term on the new Prospective Payment Assessment Commission. The commission is required under the law to set up Medicare's diagnosis related groups (DRGs) and is expected to play a major role in updating and modifying the Medicare pricing scheme. Beginning in 1986, the panel is to advise the Department of Health and Human Services on needed modifications or additions in the DRGs to reflect technology and practice changes and to recommend an appropriate annual increase in the DRGs.

Two Year-6 medical students from St. Louis, *Mark Wasserman* and *Robert H. Collins*, recently received awards from the St. Louis Friends of the UMKC School of Medicine. Mr. Wasserman's award was for outstanding achievement in research. Mr. Collins received recognition for excellence in basic science.

Robert W. Hiatt, D.D.S., professor of dentistry and medicine and chairman of the Oral and Maxillofacial Surgery Department at Truman Medical Center, recently announced plans for an Inaugural International Symposium on Trauma to the Facial Skeleton on May 25-26 at the Westin Crown Center in Kansas City. The symposium is made possible through support from the Maurice L. and Virginia L. Brown Foundation. Mr. and

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Medical School News *(Continued)*

Mrs. Brown of Kansas City also have provided support for a residency position in the Oral Surgery Department. Dr. Steven Albright is the first-year resident.

In Memoriam

Gulph W. Grove, M.D., 210 E. McPherson, Knob Noster 65336; graduate of St. Louis University, 1915; member of Johnson Medical Society; aged 96; died Nov. 9, 1983.

Thomas A. Donnell, M.D., Box 592, Hillsboro 63050; graduate of Vanderbilt University, 1940; member of Jefferson Medical Society; aged 69; died Nov. 22, 1983.

Hugo F. Bergman, M.D., 2920 Moniteau Dr., St. Louis 63121; graduate of St. Louis University, 1928; member of St. Louis Metropolitan Medical Society; aged 80; died Dec. 4, 1983.

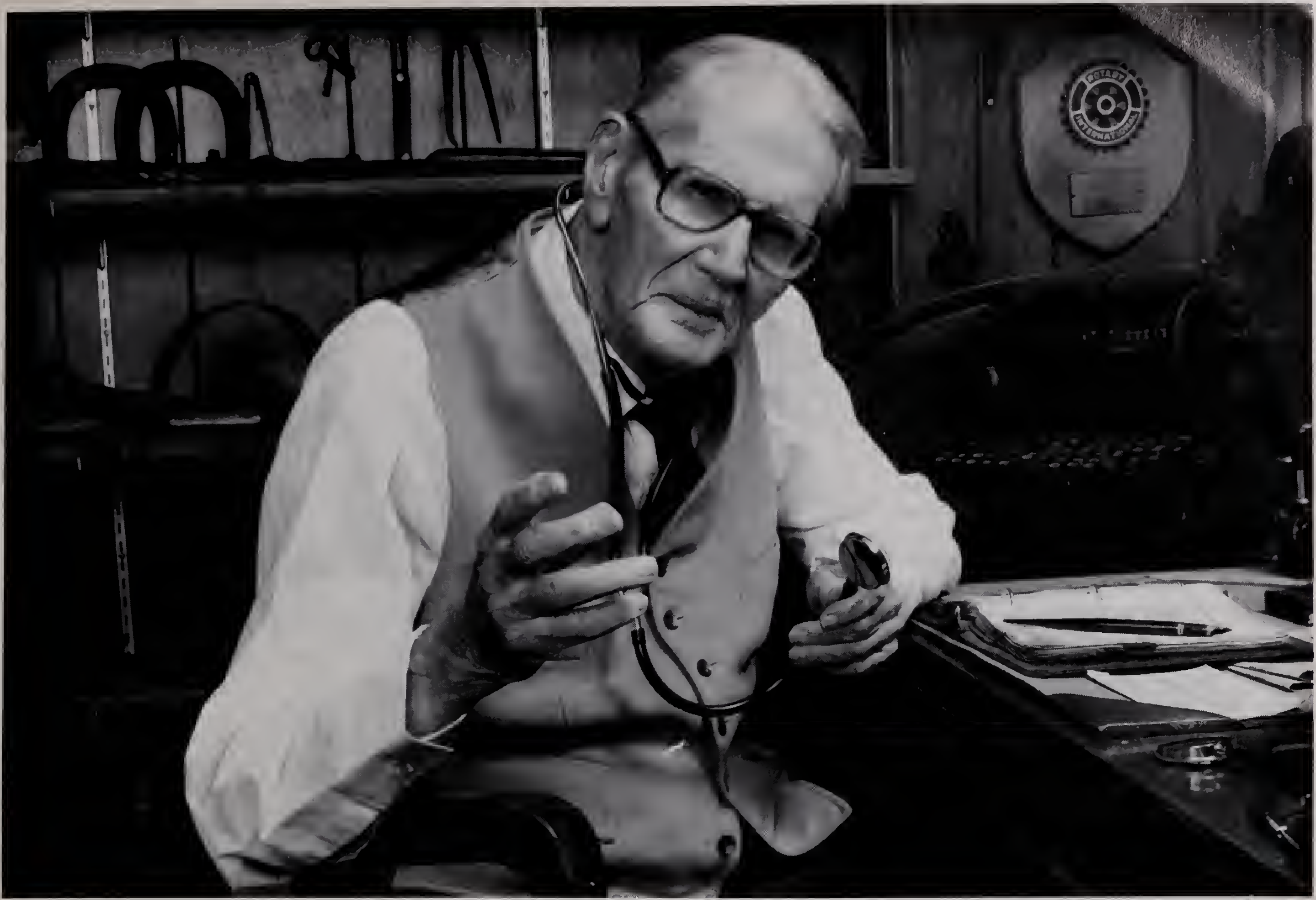
Alfred M. Langenbach, M.D., Delmar Gardens, Chesterfield 63017; graduate of Washington University, 1925; member of St. Louis Metropolitan Medical Society; aged 83; died Dec. 9, 1983.

Robert H. Dunham, M.D., 6022 Antioch Rd., Kansas City 64119; graduate of the University of Kansas, 1941; member of Clay-Platte Medical Society; aged 67; died Dec. 13, 1983.

John A. Reineck, M.D., 5410 Rhodes, St. Louis 63109; graduate of St. Louis University, 1945; member of St. Louis Metropolitan Medical Society; aged 64; died Dec. 19, 1983.

William A. Challener, III, M.D., 902 Edmond, St. Joseph 64502; graduate of the University of Pennsylvania, 1953; member of Buchanan County Medical Society; aged 55; died Dec. 22, 1983.

William A. Marmor, M.D., 1233 Guelbreth Lane, St. Louis 63141; graduate of Washington University, 1927; member of St. Louis Metropolitan Medical Society; aged 75; died Jan. 2, 1984.



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Introducing Our New MSMA Members

Thomas A. Applewhite, M.D., 1325 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Applewhite is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1979. He specializes in diagnostic radiology.

Jay B. Crabtree, M.D., Citizens Memorial Hospital, Bolivar 65613, has become member of Dallas-Hickory-Polk-Dade Medical Society. Dr. Crabtree is a native of Little Rock, Ark., received his preliminary education at Little Rock University and his M.D. degree at the University of Arkansas. He specializes in diagnostic radiology.

Carlos J. Deleste, M.D., 426 Main, Festus 63028, has become a member of Jefferson County Medical Society. Dr. Deleste is a native of the Philippines, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1967. He specializes in urology.

Rama D. Devabhaktuni, M.D., 3535 S. Jefferson, St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Devabhaktuni is a native of India, received his preliminary education at Andhra University and his M.D. degree at Andhra University in 1969. He specializes in family practice.

William S. Donnell, Jr., M.D., 108 N. Main, Bolivar 65613, has become a member of Dallas-Hickory-Polk-Dade Medical Society. Dr. Donnell is a native of Milwaukee, Wis., received his preliminary education at the University of Wisconsin and his M.D. degree at the University of Wisconsin. He specializes in family practice.

John K. Griffith, M.D., P. O. Box 129, Arnold 63010, has become a member of Jefferson Medical Society. Dr. Griffith is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1950. He is in general practice.

William J. Halleran, III, M.D., Suite 900, 6724 Troost, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Halleran is a native of Boston, Mass., received his preliminary education at the University of Southern California and his M.D. degree at the University of Kansas in 1978. He specializes in diagnostic radiology.

Mark F. Herbers, M.D., 14377 Woodlake, Suite 113, Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Herbers is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in pediatrics.

Johann H. Joist, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Joist is a native of West Germany, received his preliminary education at Gymnasium Bergisch Gladbach and his M.D. degree at the University of Cologne in 1961. He specializes in internal medicine.

Jan W. Kakolewski, M.D., 408 Water, Greenfield 65661, has become a member of Dallas-Hickory-Polk-Dade Medical Society. Dr. Kakolewski is a native of Poland, received his preliminary education at II Liceum Ogolnoksztalcace in Gliwice and his M.D. degree at Silesian Medical Academy in 1961. He specializes in psychiatry.

Michael S. Robertson, M.D., 2320 Truman Blvd., Crystal City 63019, has become a member of Jefferson Medical Society. Dr. Robertson is a native of St. Louis, received his preliminary education at Whittier College and his M.D. degree at St. Louis University in 1979. He specializes in obstetrics and gynecology.

Rosemary F. Rodgers, M.D., 3908 S. Grand Blvd., St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Rodgers is a native of Cincinnati, Ohio, received her preliminary education at Northwestern University and her M.D. degree at Northwestern University in 1969. She specializes in internal medicine.

David H. Shuss, M.D., Suite 224, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Shuss is a native of Parsons, Kan., received his preliminary education at Kansas University and his M.D. degree at Kansas University in 1979. He specializes in internal medicine.

Marty H. Thomas, M.D., Suite 302, 4400 Broadway, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Thomas is a native of Portland, Ore., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1979. He specializes in obstetrics and gynecology.

Ronald W. Leong, M.D., 6420 Clayton Rd., St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Leong is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at Washington University in 1981. He specializes in internal medicine.

Frederick B. Lintecum, M.D., Suite 520, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Lintecum is a native of Kansas City, received his preliminary education at Westminster College and his M.D. degree at the University of Kansas in 1979. He specializes in obstetrics-gynecology.

Howard M. Matsuba, M.D., Barnes Hospital, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Matsuba is a native of Honolulu, received his preliminary education at the University of Hawaii and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in ear, nose and throat.

Janet S. Mertz, M.D., Suite 105, 2928 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Mertz is a native of Kansas City, received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1975. She specializes in otorhinolaryngology.

Sue K. Mohalko, M.D., 3908 S. Grand, St. Louis 63118, has become a member of St. Louis Metropolitan Medical Society. Dr. Mohalko is a native of Cleveland, Ohio, received her preliminary education at Ohio State University and her M.D. degree at Ohio State University in 1977. She specializes in family practice.

New Student Members

University of Missouri-Columbia

John Wagner

St. Louis University

Paul B. Andelin
Brian D. Grogan
Douglas D. Smith
Bruce D. Spinzig

University of Missouri-Kansas City

Christine L. Kelley
Gerry A. Love
Janet F. Miles
Kevin L. Pope
John W. Shook

Washington University

Elton C. Bowen
Harris Chrysikopoulos
Pamela K. Grow
Tom Cheung
Robert M. Makeever
Mary O. Polk
Tara A. Rumbarger
Frances Sun
Alison Whelan
Carl T. Wilson

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The Midwest Organ Bank Laboratories have changed procedures to provide a less expensive HLA-B27 test. The HLA-B27 test will only check for the presence or absence of the antigen B27. The report will be either B27 positive or B27 negative. This test will include reagents to eliminate confusion with crossreactive antigens that may be mistaken for HLA-B27. The additional antigens tested will include HLA-B7, Bw42, B40, Bw22 and Bw47. All reagents utilized for B27 testing have undergone extensive quality control to ensure potency and accuracy. The charge for this test will be $50.00. The results will be available within 24 hours of the receipt of the blood specimen and, in most cases, on the same day.

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The Organ Bank Laboratories will also continue to offer a disease association test. This test should be ordered for any HLA antigen other than HLA-B27. All antigens known to have a disease association are included in the disease association test. The result will provide a full HLA phenotype, listing the antigens found. The cost of this test will be $90.00.

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For additional information, please call the Midwest Organ Bank Laboratories at 816-931-6353.

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Directory of Medical Specialty Organizations in Missouri

For the convenience of all MSMA members, the following is a list of medical specialty organizations in Missouri who responded to a request from MISSOURI MEDICINE for information regarding their officers and meeting time and place. This information will appear in MISSOURI MEDICINE twice yearly and will be updated again in the February, 1985 issue and the 1984-1985 Annual Directory and Membership Roster of this journal.

Any group not included below is invited to send this information to MISSOURI MEDICINE, P. O. Box 1028, Jefferson City, MO 65102.

* Please Note: The addresses and phone numbers of physicians' names with an asterisk (*) are listed in the 1983-1984 Directory-Roster issue of MISSOURI MEDICINE.

MISSOURI STATE ALLERGY ASSOCIATION

President: T. Reed Maxson, M.D.*
Secretary-Treasurer: Marvin Kahn*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI SOCIETY OF ANESTHESIOLOGISTS

President: William J. Brian, M.D., 609 Cherry Street, Springfield 65806
Secretary: Bhaskara Ponnuru, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI DERMATOLOGY SOCIETY

President: James A. Roller, M.D.*
Executive Secretary: Dan H. Young, 8000 Crescent Dr., Clayton 63105
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI CHAPTER, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

President: Edward B. Kinports, Jr., M.D., 2400 Pershing Road, Suite 561, Kansas City 64108
Secretary: David M. Trantham, M.D., St. Francis Medical Center, St. Francis Dr., Cape Girardeau 63701
Time and Place: TBA

MISSOURI EAR, NOSE & THROAT ASSOCIATION

President: Joseph West, M.D.* (1983-1985)
Secretary: Donald Joseph, M.D.*
Treasurer: William Davis, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI ACADEMY OF FAMILY PHYSICIANS

President: David W. Hall, M.D.*
Secretary-Treasurer: J. Fred Fairchild, M.D.*
Time and Place: June 8-10, 1984, Tan-Tar-A, Osage Beach

MISSOURI SOCIETY OF INTERNAL MEDICINE

President: Michael C. Perry, M.D.*
Secretary-Treasurer: D. Douglas Westhoff, M.D.*
Time and Place: Oct. 11-14, Lodge of the Four Seasons, Lake of the Ozarks

MISSOURI STATE NEUROSURGICAL SOCIETY

President: Harry O. Cole, M.D.*
Secretary-Treasurer: Jerome Hanson, Jr., M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI OB/GYN-ACOG

President: James G. Blythe, M.D.*
Secretary-Treasurer: James E. Bickley, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

President: Harry Knopf, M.D.*
Secretary: Wayne Shelton, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI STATE ORTHOPAEDIC ASSOCIATION

President: David A. Tillema, M.D.*
Secretary: Raymond A. Ritter, Jr., M.D.*
Time and Place: May 31-June 3, 1984, Lodge of the Four Seasons, Lake of the Ozarks

MISSOURI SOCIETY OF PATHOLOGISTS

President: Paul S. Quinn, M.D.*
Secretary-Treasurer: W. B. Stewart, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI CHAPTER, AMERICAN ACADEMY OF PEDIATRICS

President: Don L. Thurston, M.D.*
Secretary-Treasurer: David Simon, M.D.*
Time and Place: TBA

CENTRAL MISSOURI PSYCHIATRIC SOCIETY

President: Walid O. Shekim, M.D., Mid-Missouri Mental Health Center, 803 Stadium Road, Columbia 65201
Secretary-Treasurer, Bruce Harry, Dept. of Psychiatry, University of Missouri-Columbia School of Medicine, Columbia, MO 65212
Time and Place: Last Wednesday of every month (beginning with February).

MISSOURI RADIOLOGICAL SOCIETY

President: Charles L. Abramson, M.D.*
Secretary: Julian N. Verde, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

CENTRAL SOCIETY OF REHABILITATION MEDICINE

President: Franz Steinburg, M.D.*
Secretary-Treasurer: V. Nanda Kumer, M.D., VA Hospital, 4801 Linwood Blvd., Kansas City 64128
Time and Place: MSMA Annual Convention, St. Louis

MISSOURI CHAPTER, AMERICAN COLLEGE OF SURGEONS

President: Charles B. Anderson, M.D.*
Secretary-Treasurer: Martin J. Bell, M.D.*
Time and Place: June 8-9, 1984, Clarion Hotel, St. Louis

MISSOURI STATE SURGICAL SOCIETY

President: George Tucker, M.D.*
Secretary-Treasurer: Frank L. Mitchell, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

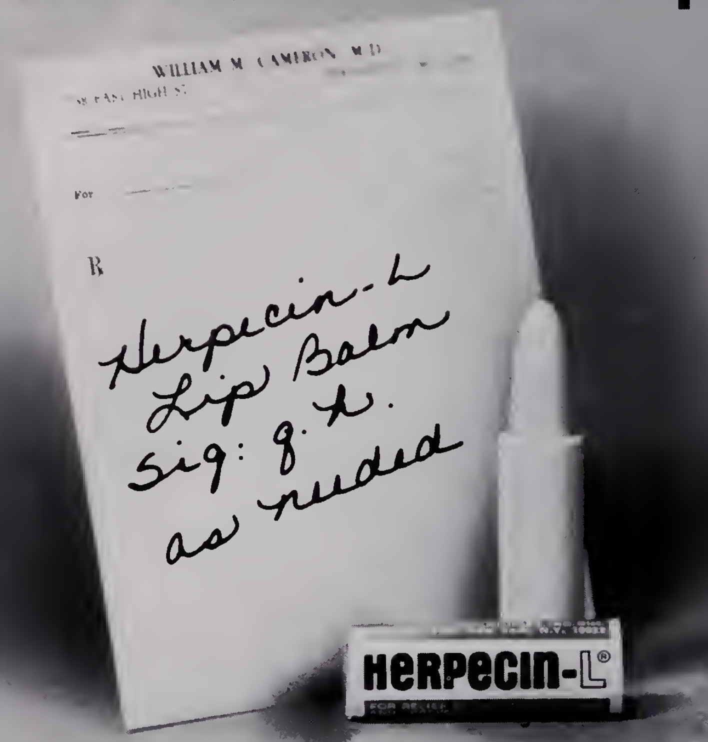
MISSOURI THORACIC SOCIETY

President: John R. Goheen, M.D.*
Secretary-Treasurer: William W. Pingleton, M.D.*
Time and Place: Oct. 25-28, 1984

FEDERATION OF MISSOURI UROLOGISTS

Acting Chairman: Jay Milne, M.D.*
Time and Place: MSMA Annual Convention, St. Louis

Dx: recurrent herpes labialis



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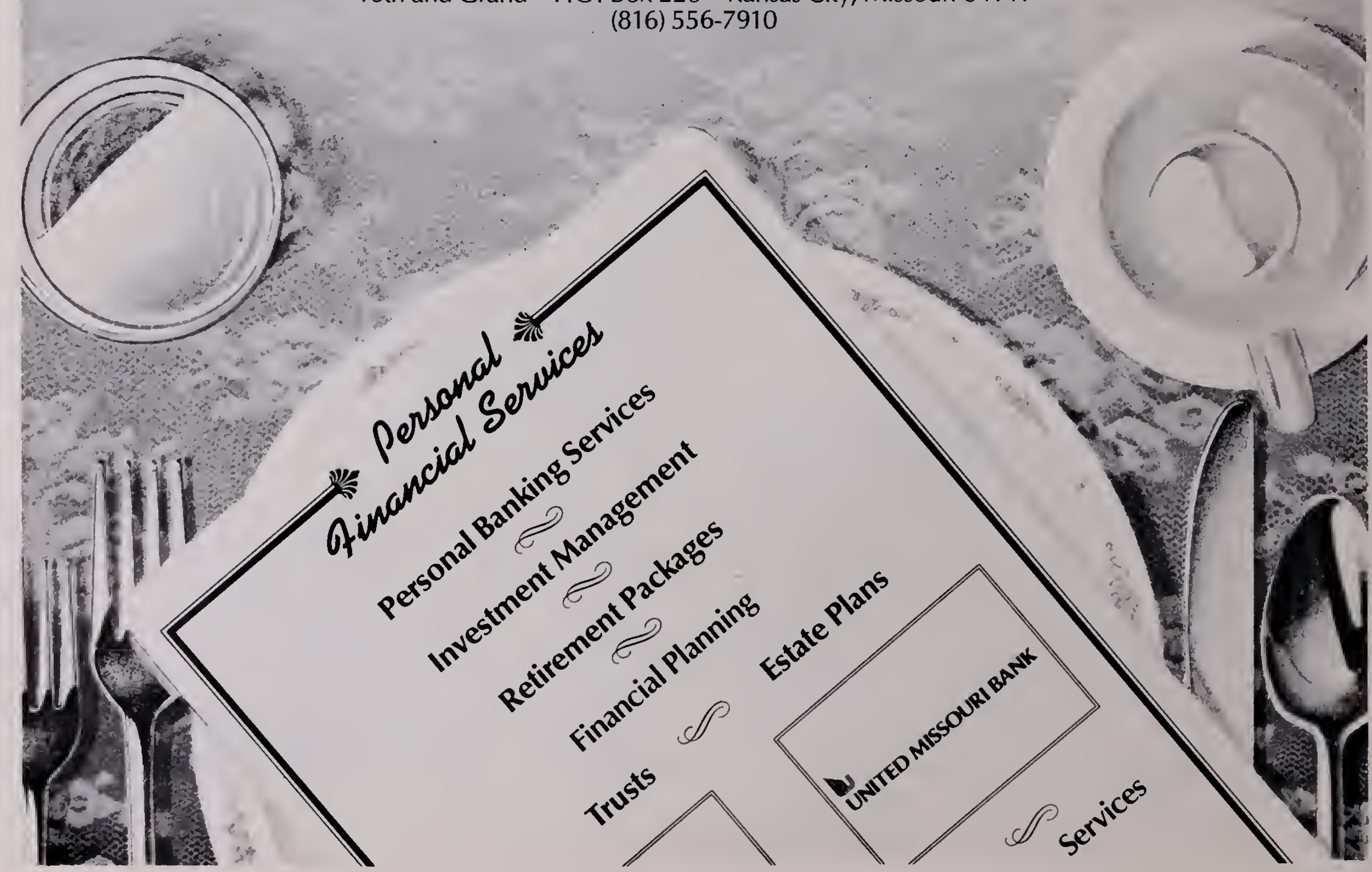
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* **WARNING**

This drug [illegible] indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema [illegible] static but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy**. Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

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Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

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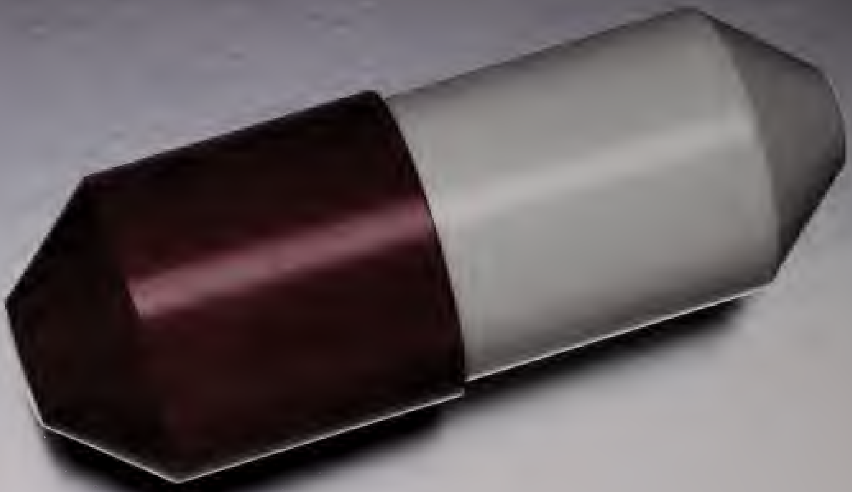

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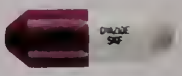

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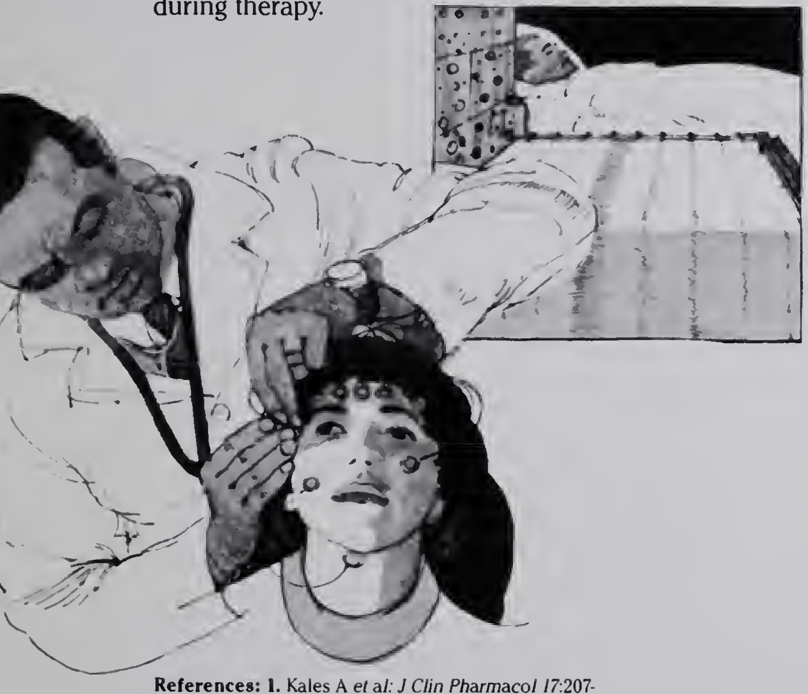

References: 1. Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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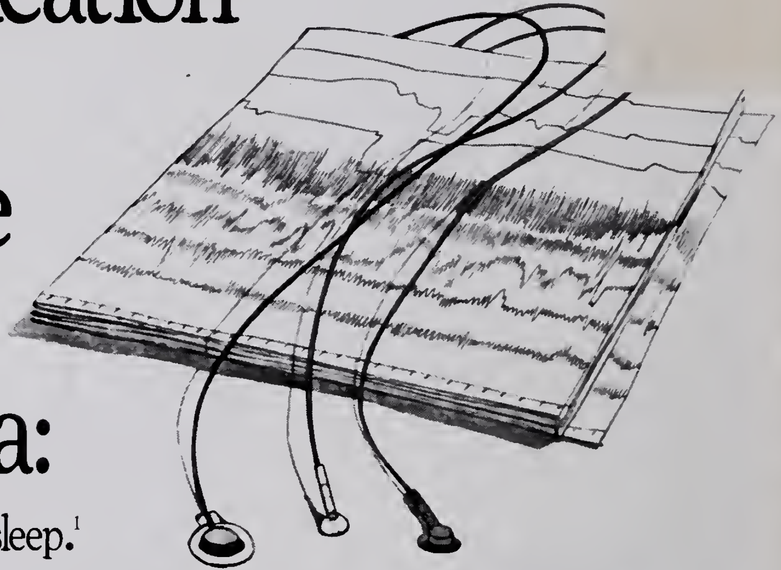

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Missouri Medicine

Vol. 81, No. 3 (ISSN 0026-6620) March, 1984

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Hemophilia

Special Article

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MSMA 1984 ANNUAL CONVENTION

Editor's Corner

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MISSOURI STATE MEDICAL ASSOCIATION

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PROGRESS NOTES

missouri state medical association

MARCH 1984

Midwest MDs: Highest Patient Visit Rates

While patient visits are down nationwide, physicians in the Midwest have the country's highest patient visit rates, a median of 123 per week, according to a report in *Medical Economics*. They have also lost the least ground over the past four years, with a decline of 14%. Doctors in the south have experienced a decline of 20% in four years for a median patient visit rate of 119 weekly. Eastern physicians have a rate of 95 patient visits per week (down 17%) and Westerners come in last with 92 visits per week (down 15%).

In 1974, the national median weekly patient visit rate per office-based MD was 134. By early 1982 it had declined to only 108, a drop of almost 20% in eight years. *Medical Economics* states that the main factor for the decrease is probably the increase in the number of doctors competing for patients.

There are more than 67,000 more MDs and DOs in office-based practice today than there were in 1978. Considered by specialty on a national basis, general surgeons have suffered the biggest decline in patient visits over the last four years (22%). Patient visits are down 17% for family practitioners, 15% for general practitioners, 13% for internists and pediatricians, 11% for OBG specialists, and 10% for ophthalmologists. Psychiatrists, however, haven't lost a single patient since 1978 and orthopedists have gained one visit per week.

Don't Miss MSMA's Annual Convention March 29-April 1

Medical Legislation

House Approves First Bill Addressing Medical Issues

The first bill of direct interest to medicine, House Committee Substitute for HB 1296, was approved by the House after picking up several amendments. The bill contains three separate issues: Certificate-of-Need, Uniform Billing and Preferred Provider Organizations.

The first portion of the bill would strengthen current Certificate-of-Need statutes to some degree while the second portion would mandate the acceptance of uniform billing forms by all third party payers. This later section was amended to include a requirement that providers provide patients with an itemized bill upon request.

The final portion of the bill drew the most comment. As it reads, this portion would recognize the right of third party payers to form Preferred Provider Organizations (a right, incidently, that the payers have already.) The Missouri State Medical Association will continue to closely monitor the bill and its potential impact on medicine. The bill will now be considered by the Senate.

The MSMA has also been working with sponsors of both a Senate and House version of the Handicapped Infants' bill. The Senate and House committees studying the legislation have adopted and approved substitute language for their respective bill. The two bills have been given low priority by each committee and indications are that it is unlikely they will be considered by either the full House or Senate this year. However, the MSMA remains alert to the possibility that either of the substitute bills could be attached to another similar bill.

Council Meeting

MOMEDICO: Of 700 Claims, Only 3 Judgements Against MDs

At its most recent meeting, the MSMA Council approved the association's attempts to intervene and file an *amicus curiae* in the case of *William R. Richardson vs. St. John's Mercy Hospital*, a case involving hospital medical staff privileges.

An MSMA membership report was released during the meeting which gave a breakdown of membership by county society and councilor district. The figures indicated a slowing rate of membership within metropolitan areas and an opposing trend in outstate areas.

Dr. Richard Bradley, president of MOMEDICO, briefed the Council on current activities of MOMEDICO. MOMEDICO recently increased premiums by 25% of the base level; have held several malpractice prevention seminars throughout the state; have had 700 total claims since its inception in 1978 and of those claims 81% have been closed without paying anything other than expenses. MOMEDICO has been to court 20 times and has paid only on judgements against physicians in three cases. They are working on a program to educate physicians to admit errors early (if evidence so indicates). If done, most of these cases can be set-

(continued on next page)

MSMA Opposes Mandatory Medicare Assignments

Members of the MSMA and the AMA are urged to write to their congressmen and oppose bills that would limit the freedom of physicians to accept or reject Medicare assignment.

The current session of Congress is faced with proposals to freeze Medicare fees. As a part of these proposals, the House of Representatives is debating a change that would require physicians to accept assignment for services provided to Medicare hospital inpatients. Physicians who do not agree would lose their admitting privileges at hospitals participating in the Medicare program.

As an alternative, the Senate Finance Committee has proposed that physicians who do not agree to accept Medicare assignment for all claims would be penalized by receiving lower reimbursement than "participating" physicians.

"The AMA opposes any proposal to curtail the freedom of patients and physicians to exercise the current assignment option," John J. Coury, Jr., M.D., chairman of the AMA Board of Trustees, and Frank J. Jirka, Jr., M.D., AMA president, wrote in an open letter to physicians. "These proposals could reduce the number of physicians in the Medicare program and thus make it more difficult for patients to receive care," they explained.

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Continued from page 1

MSMA Awaits Guidelines for State PRO Contract

tled out of court within 90 days which benefits the patient, the physician and the insurance company.

Dr. John I. Matthews, chairman of the Committee on Legislative Affairs, reported that a state senator has been preparing to sponsor a bill legislating a breast cancer informed consent law. However, the MSMA has persuaded the senator to turn the matter over to the MSMA and the American Cancer Society. The MSMA Commission on Interspecialty Medicine will be responsible for developing the proper language for a brochure which will explain the advantages and disadvantages of the various methods of treatment for breast cancer. The brochures will then be distributed to physicians free of charge. Physicians may then give the brochures to breast cancer patients.

Dr. T. J. Cooper reported that the guidelines for implementation for PROs have not been published as yet, but they should be available by the end of February. At that time, the MSMA will have a 60-day period in which to file its proposal to implement these guidelines. HCFA will then have an additional 60 days in which to make a decision as to which organization and/or organizations will be granted PRO contracts.

The Missouri Patient Care Review Foundation is attempting to work with five existing PSROs to subcontract with the Foundation to provide the actual review process. There has been some controversy regarding this proposed method of operation. However, the Association will continue to negotiate with the PSROs to settle these differences. A motion was made and seconded that the MSMA authorize the Foundation to proceed under the terms of the oral agreement that was made at the meeting of the liaison committee. The agreement offers each of the present five PSROs the option of subcontracting with the Foundation for the purpose of review with the agreement that each subcontracting PSRO will have a corresponding seat on the Board. The motion was unanimously adopted.

Springfield & St. Louis

Seven Influenza Cases Confirmed in Missouri

The Missouri Division of Health has confirmed seven influenza cases in the state: four cases in Springfield, one of type A England (H1N1) and three of type B Singapore; and three cases in St. Louis, one of type A England (H1N1) and two of type B Singapore. Using the available sera, it is known only that these are England-like and Signapore-like strains and not absolutely identical to the reference strains.

Nationwide as of February 17, the Center for Disease Control (CDC) has reported confirmed cases of type A (H1N1) in 30 states for the 1983-1984 season. Twenty other states have isolated type B Singapore. Although no cases of type A Philippines (H3N2) have been confirmed in Missouri, seven states have isolated it.

In October 1983, the CDC reported the existence of new variants of type A (H1N1) named A Chile, A New Caledonia and A Dundin. These represented a drift of the virus and not a major drift in antigenic composition. It is expected that viruses similar to these new variants will circulate in the United States this season but this has not yet been proven. The vaccine for the 1983-1984 season contained type A Brazil (H1N1) as well as A Philippines (H3N2) and B Singapore and is expected to give some protection against the new variants but not to the same degree as for strains more similar to A Brazil.

Individuals immunized for the 1983-1984 season should be relatively protected, but immunizations given at this time will most likely be ineffective. Amantadine hydrochloride can be given as a chemoprophylaxis for influenza A, but not for type B, if administered before exposure or within the first few hours after onset. Amantadine generally is used for those at high risk.

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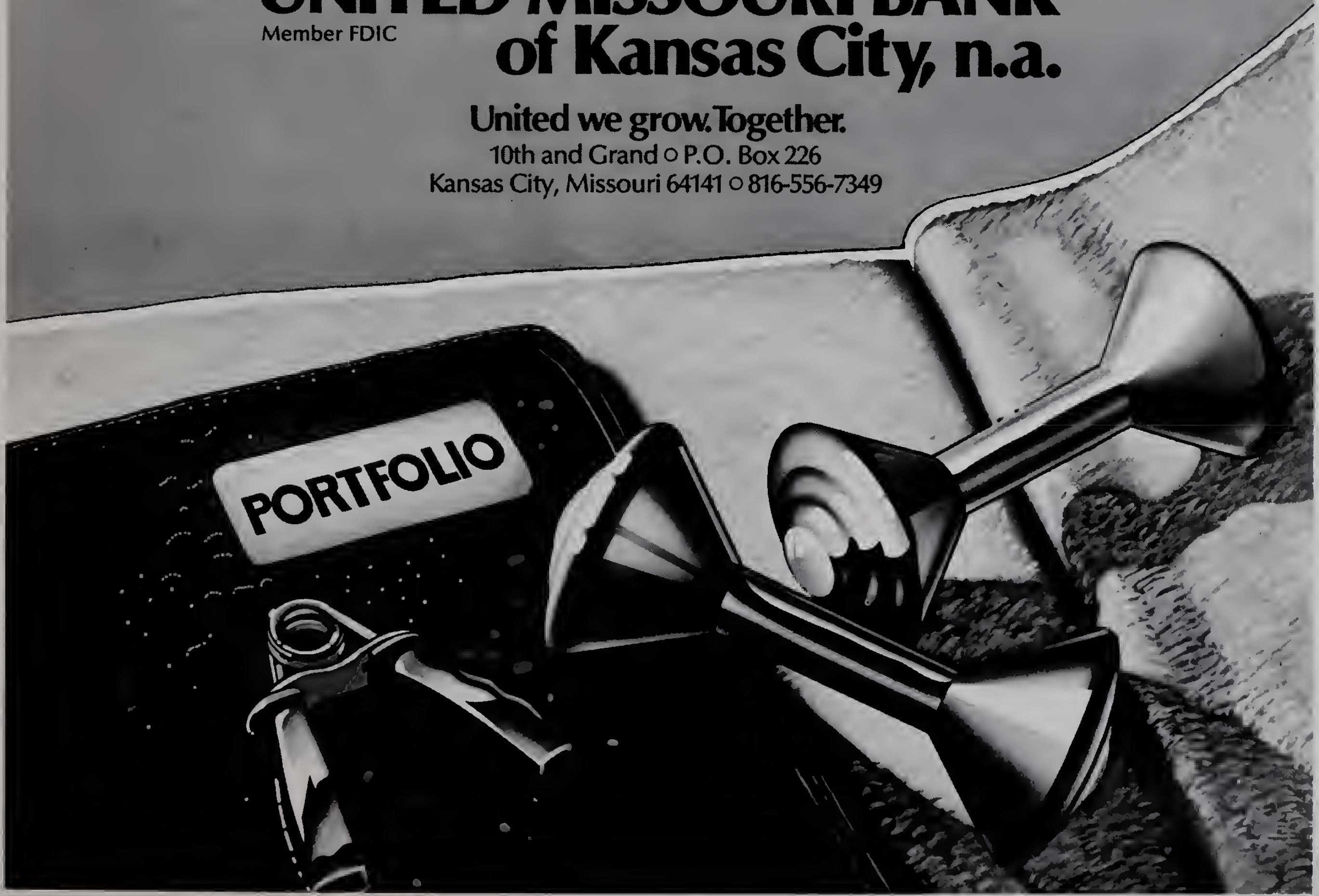

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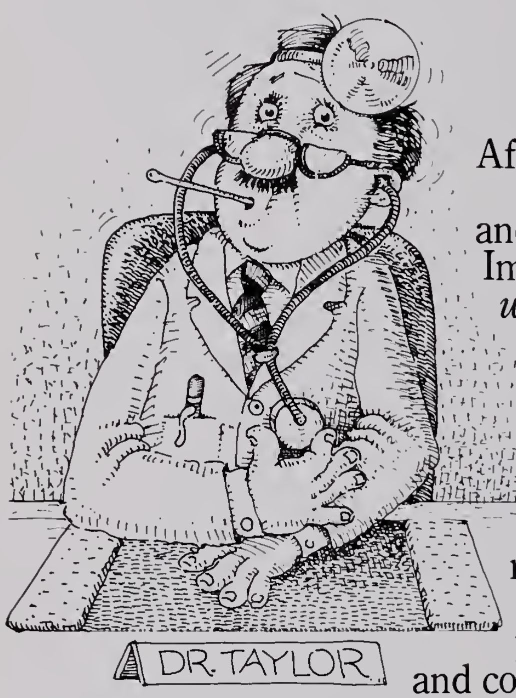

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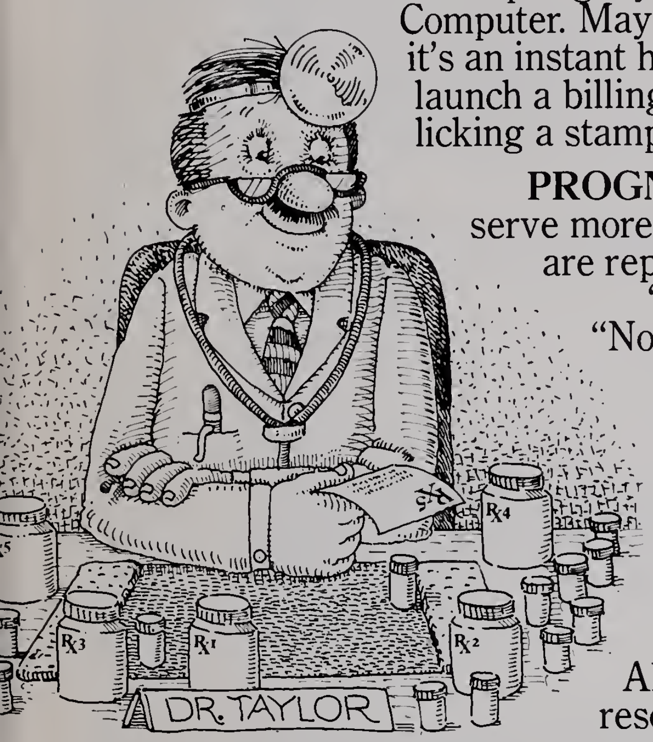

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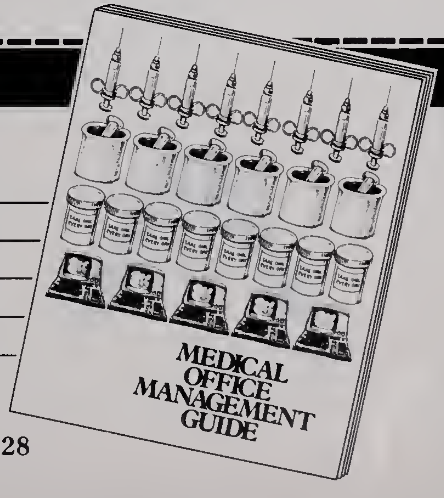

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Editor's Corner

EDITORIAL

Sometimes as physicians we become so concerned with the academics of our profession that we forget why patients really come to see us. Most of these people have not read medical books on signs and symptoms of diseases — they pay their money to see the doctor because, from their standpoint, something is wrong. It's not that they think their liver profile is tilted the wrong way or that their FEV is not up to a predicted level. Cancer Warning Signs may occasionally be involved. The sight of blood is a strong stimulus toward finding a physician, and generally not feeling good ranks high. Topping the list, however, are aches and pains. When something hurts, it's time to go to the doctor.

To most of us, treating painful ailments is difficult. The average patient who hurts has already been through the aspirin bottle, plus the latest TV-advertised Extra Strength Whatever ("which more doctors give their own families"). Often, the friendly chiropractor has had his hand in or on the problem. By the time the pains are brought to the medical doctor's door, the victim is sure he must have some sort of complex condition that deserves a thorough workup. It's when the good doctor, after careful examination, tells him that generic aspirin will do as well as anything else that the patient bolts out the door on his way for a second opinion, and second opinions there are. Pain clinics grace all major cities. Acupuncture parlors do a good business, while much of the medical world still doesn't know exactly what to think of them. Indeed, treating the pain symptom calls for the best of the art and science of medicine. Arthritis and other inflammatory diseases cause misery for millions. The anguish of vascular headaches is like no other; dependable relief still eludes us. Organic aches have to be separated from those stemming from tension. Reassurance must be continually given that all that hurts is not disease, and the converse point that serious illnesses quite often don't hurt must be emphasized. The fear of a serious illness heralded by pain is often uppermost in the patient's mind, and this matter must be dealt with directly.

Managing pain is difficult enough; dealing with suffering puts all of us to the test. Merely separating the two is difficult. Physicians are all too often turned off by patients who hurt without apparent reason. Unfortunately, there are drug addicts and hypochondriacs to complicate making a diagnosis — a further reason doctors may find it hard to have full empathy with those whose pains cannot be documented by laboratory tests or by an x-ray. One wonders how much pain the people of past centuries had, and what they did about it. Aspirin didn't come on the scene until the 20th century (over 20 million pounds are used in the United States annually). The old "mind over matter" dictum probably helped — however applied. We as physicians probably should heed this concept in treating pain — first being sure about the "matter" and, then, often forcing ourselves to deal diligently with the "mind." For all our medical advances, the patient who comes to see us because he hurts continues to represent a real challenge.

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References:
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2. Antman E, Muller J, Goldberg S, et al Nifedipine therapy for coronary-artery spasm Experience in 127 patients *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY
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INDICATIONS AND USAGE: **I. Vasospastic Angina**: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina but available information is not sufficient to predict with confidence the effects of concurrent treatment especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl in other surgical procedures or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated the physician should be aware of these potential problems and if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients usually receiving a beta blocker have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema typically associated with arterial vasodilation and not due to left ventricular dysfunction occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis, mutagenesis, impairment of fertility When given to rats prior to mating nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance dermatitis pruritus urticaria, fever, sweating chills and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain possibly due to associated hypotension

In addition more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase CPK LDH SGOT, and SGPT have been noted and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis possibly due to PROCARDIA therapy has been reported twice in the extensive world literature

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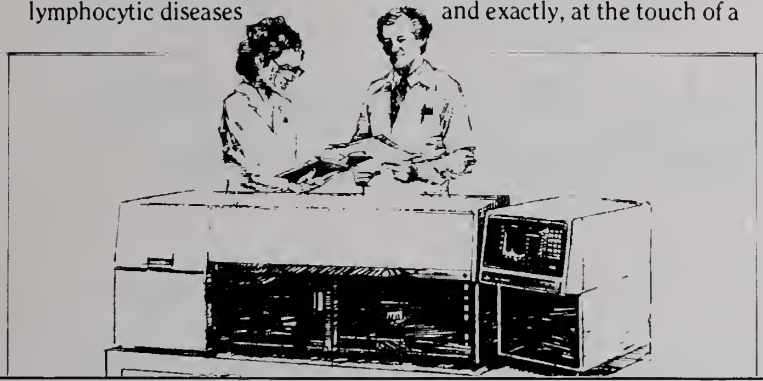

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Hemophilia

By
MICHAEL C. PERRY, M.D. *and*
NASROLLAH HAKAMI, M.D.
Columbia*

ALTHOUGH HEMOPHILIA is an uncommon disease, it often assumes an importance out of proportion to its numbers in the population.

This disease is seen by geneticists as a classic example of X-linked inheritance, by hematologists as the prototype coagulation factor deficiency, by orthopedists as a major therapeutic dilemma in the management of hemarthroses and by third-party payors as a major drain on health care resources. These patients require blood products that are expensive, not easily produced and often in short supply.

There are few other areas of medicine in which the rationing of health resources become so apparent. In this series of articles, we have tried to discuss several aspects of this complex disease entity. The orthopedic management of musculoskeletal aspects of hemophilia is summarized. The impact on state health resources is outlined. Finally, an article summarizing mortality and morbidity in hemophilia is presented.

We believe that this issue will be of importance to pediatricians and internists who supply the bulk of patient care as well as to hematologists, orthopedists and pathologists.

With availability of factor concentrates and home transfusion programs, every affected individual with hemophilia and related disorders has the opportunity to lead a productive life with minimum disability. It is clear, however, that the available resources are not extended to a large portion of patients with hemophilia. Only 40% of these patients participate in the annual comprehensive care funded by the State of Missouri Hemophilia Program.

We hope this series of papers will generate increasing professional and public awareness about these potentially disabling bleeding disorders.

Dr. Perry is Chairman of the Department of Medicine, Division of Hematology and Medical Oncology, and Dr. Hakami is Professor of Child Health, Division of Hematology and Medical Oncology, University of Missouri-Columbia.

ROBERT B. WILSON, *Jefferson City*

The Missouri Hemophilia Program

Utilizing Consumer Involvement in the Delivery of Comprehensive Public Health Services

HOME THERAPY (or self infusion) has been the most innovative mode of hemophilia treatment within the past decade. It has received particular attention with respect to economic considerations as well as to efficacy of treatment.[1]

HOME THERAPY

Prior to the establishment of the State of Missouri Hemophilia Program in 1976, the only existing resource for care was the Missouri Crippled Children's Service (MCCS), which provided treatment for pediatric hemarthroses. The first patient was admitted to the hemophilia program in 1977. Thereafter, the state home therapy program's impact on MCCS case numbers and expenditures was immediately significant. The number of cases dropped appreciably, which apparently was attributable to improved control of hemarthroses. The following schedule reflects MCCS hemophilia case numbers and expenditure prior to and through fiscal year 1981:

SCHEDULE 1
MISSOURI CRIPPLED CHILDREN'S SERVICE
HEMOPHILIA CASES[2]

Fiscal Year	*# Children*	*Amount*
74	41	$ 62,307.62
75	46	89,561.22
76	49	92,654.82
77	42	116,124.98
78	34	85,321.13
79	27	59,722.96
80	22	18,023.04
81	15	16,401.94

The initial Missouri hemophilia treatment center at Cardinal Glennon Memorial Hospital in St. Louis gathered data several years ago to express the economics and efficacy of home therapy to insurance firms and to the state legislature. Glennon Hospital statistics show the following results for several hemophiliacs who were placed on a home therapy treatment regimen (Table 1).[3]

STATE PROGRAM

In 1976, the Missouri Division of Health was appropriated $200,000 by the state legislature to provide financial assistance for the treatment of hemophilia. The initial direction was to financially subsidize those who needed assistance with the cost of blood factor used in a home therapy program.

COMPREHENSIVE CARE

In the early years of the state program, several cases came to the attention of the hemophilia treatment centers in which care had ranged from less-than-adequate to gross neglect.

Although home therapy received the initial attention of the new State of Missouri Hemophilia Program, it was intended in part as a means to an end. The ultimate objective was to establish comprehensive statewide care. According to Shelby L. Dietrich, M.D. in *Comprehensive Care for the Person with Hemophilia*, National Hemophilia Foundation: "Comprehensive care for the person with hemophilia may be defined as continuing supervision of all medical and social aspects affecting the patient as well as his family." Ideally, every hemophiliac child or adult should be evaluated regularly by his physician as well as by an interdisciplinary team of experts. Working together, the primary practitioner and the specialty team are able to make today's hemophiliac

TABLE 1
CARDINAL GLENNON HOSPITAL
HOME THERAPY CASES

	Periods Covered	
	1973-1976	*1976-1979*
Days lost from work or school	79% decrease	82% decrease
Days hospitalized	82% decrease	91% decrease
Emergency room visits	68% decrease	70% decrease
Use of factor concentrate	40% increase	25% increase
Total cost of care	60% decrease	65% decrease

Note: The above indicated decrease or increase percentages are for the beginning of the respective period covered to the end of that period.

an active and productive member of society.[4]

Funding Comprehensive Care

Obviously, establishment of comprehensive care statewide was such an ambitious objective that it had to be approached prudently because the actual number of hemophiliacs in the state and the degree of severity of their condition had never been surveyed and collated.

In 1979, the Missouri legislature approved hemophilia legislation by the largest majority of any state legislature that has passed a hemophilia bill. The passage of this legislation was due largely to the success of the home therapy program. The bill's broad mandates allowed a comprehensive approach to the state program, but the appropriation was increased by only $40,000. The major insurance firms in Missouri were receptive to reimbursement for Factor infused at home. Therefore, the potential for program expansion appeared feasible even though these firms' receptivity to reimbursing for comprehensive examinations was not assured.

In 1980, it appeared that comprehensive examinations were fiscally possible because adequte funds remained at the end of the fiscal year. This allowed for the provision of seed money to expand into a pilot activity. The expansion of the State of Missouri Hemophilia Program to include annual comprehensive examinations hinged on the improvement of the collection from third-party payers for home therapy by the contracted providers to the state program. Some of the providers were less than aggressive in pursuing accounts in arrears, insurance reimbursements and, if applicable, participation fees from certain consumers.

Drop Shipment Program

In order to improve the cash flow of the program, it became obvious that administration of the home therapy distribution system needed to be more efficient.

From the inception of the Missouri Hemophilia Program, periodic interests in the establishment of a drop shipment arrangement were voiced. It was believed that by ordering blood factor directly from the pharmaceutical company and transporting directly to the client's home would reduce total costs. The realization of this idea was inhibited because the state did not have the mechanics, manpower or budgetary support to administer such a system.

Home therapy has been considered an advent in hemophilia treatment. It is deemed necessary, however, that a patient receive a comprehensive review at least annually in order to monitor for incidental conditions that might put the hemophiliac in an at-risk situation.

Some five years ago, the Missouri hemophilia program rechanneled much of its impetus through the hemophilia consumer organizations in what might be referred to today by the New Federalists as self-help. This approach has allowed for program expansion to include comprehensive care in spite of budget freezes and cuts. Continued delivery of comprehensive hemophilia services has meant that the fiscal onus is spread among as many resources as possible.

Mr. Wilson is Coordinator, Hemophilia Program, Department of Social Services. Missouri Division of Health.

Generating Funds

There are two consumer organizations in Missouri whose membership consists of hemophiliacs and their families. The purpose of these organizations is to provide support to the membership. However, limited financial resources had restricted the extent of the organizations' activities. The consumer organizations expressed an interest and received contracts from the state to administer a drop shipment activity of the Factor for use in home therapy. The rationale for creating this activity was to improve the collection of third-party payments and also the financial position of the organizations. Just as in a hospital or blood bank, there is a price mark-up of the Factor by the organizations. It was believed that tracking insurance payments would be more closely monitored by the organizations because, with members administering the program, the personal approach from fellow members would improve collection. Also, since cash flow determines an organization's liquidity, an organization with limited reserve resources would be more aggressive in pursuing collections.

When the two consumer organizations were awarded the first contract in 1980, they were operating on meager financial reserves. This has improved dramatically. Also, the collection of third-party payments and participation fees in fiscal year (FY) 1980 was $100,455.00; in FY 1981,

$195,293.00; and FY 1982, $220,729.00.

With the reduction in government funding of health programs, most state programs have found themselves budgetarily overextended. In spite of a funding freeze and in the face of rising costs, the implementation of this drop-shipment activity by the consumer organizations resulted in decreased program payouts for home therapy even though there has been an increased number of program participants. This budgetary windfall allowed for expansion of the hemophilia program to include annual comprehensive examinations.

Most of the generated cash flow is from third-party sources, as is the case with most health institutions. The majority of hemophiliacs have health insurance that assumes most of the cost of the required blood products, and the balance is then chargeable to the state program and the individuals. The fact that the consumer organizations have provider contracts with the state served to assure the insurance firms and the pharmaceutical companies that the consumer organizations were administering a viable service. Accordingly, these firms were receptive to reimbursing and delivering products through the consumer organizations based upon the state endorsement.

Self-Help

In the view of the recent emphasis on self sufficiency and decreasing involvement by government entities in the delivery of health and welfare services, the flow of state hemophilia program funds through the consumer organizations has promoted a self-help philosophy by utilizing the state program funds as seed money. The cash flow through the nonprofit consumer organizations has generated funding for the purpose of serving those needs formerly underwritten by state hemophilia funds.

The activities that the consumer organizations support include some that were formerly underwritten by the state program as well as those unique to a voluntary agency that, through its flexibility, can provide services that are utilitarian and timely but might otherwise not be delivered through a government program because of bureaucratic regulations. The following activities are included:

—Both the Heart of America Hemophilia Chapter and the Bi-State Hemophilia Association have partially or wholly underwritten workshops designed for both consumers and professionals.

—Both of these organizations have paid the transportation costs of rural-based cases to urban treatment facilities.

—Every summer, there is a camp experience for hemophiliacs in order that they may cultivate peer camaraderie as well as learn self-care. The consumer organizations are assisting those who need financial help to attend camp.

—In 1982, the Bi-State Hemophilia Association established a research fund. An award of $30,000 was granted to an institution for hemophilia research and treatment.

—Newsletters are distributed throughout the state informing consumers of developments and events conderning hemophilia.

—Travel expenses have been underwritten for treaters to attend continuing education seminars.[5, 6]

Summary

At a time when government funding for public health is dwindling and the onus of supporting categorical health programs is falling more on private agencies, organizations and volunteers, the Missouri State Hemophilia Program, through the use of seed money, has encouraged the spirit of self-help through the hemophilia chapters for the care and treatment of this expensive condition.

The advent of home therapy for the maintenance and treatment of hemophilia has meant an improvement in the efficacy of care. Hemophilia, being a rather esoteric condition, draws limited attention in the medical field. Accordingly, hemophilia treatment centers and blood product repositories are geographically spread out. The drop-shipment program not only eliminates travel time and expense but also allows for a choice of product brand that fosters quality assurance for the consumer.

It has been found that with the hemophilia consumer organizations administrating a drop-shipment program, they are able to retrieve a significant amount of third-party payments. The improved cash flow has not only extended the state hemophilia program appropriation to allow for the inclusion of comprehensive care, but it also has provided the means for services heretofore unavailable.

Certainly, there are other categorical nonprofit health and disease agencies organized by consumers and advocates that could efficaciously deliver

(Continued on page 135)

MICHAEL C. PERRY, M.D., *Columbia*

Mortality and Morbidity in Hemophilia

In discussing mortality and morbidity in hemophilia, the author points out that more data are necessary to determine if progress has been made in treating this disease. He describes in detail the various causes of morbidity, including age factors, and adds that a disturbing new complication in hemophiliacs is that of the acquired immunodeficiency syndrome (AIDS).

Dr. Perry is from the Division of Hematology and Medical Oncology, Department of Medicine, University of Missouri-Columbia.

In spite of its obvious importance, hemophilia's mortality and morbidity is definitively addressed in only a few papers.[1-4] These data are sary to allow us to determine whether we have made any progress in treating the disease through modification of its natural history. Information concerning mortality in hemophilia is often based on death certificates, which may lead to an underdiagnosis of hemophilia deaths for at least two reasons. At the time of the patient's death, the physician may be unaware of the diagnosis of hemophilia or the patient (particularly an infant) may die before the diagnosis is made.

In 1855, well before the development of replacement therapy, Grandidier summarized the symptoms and mortality of a large hemophilia population in Germany.[3] His study was the first reliable documentation of mortality in hemophilia. Of 142 deaths, 114 (80%) occurred in patients younger than 14 years of age. A century later, a United Kingdom survey of the years from 1955 to 1972 was made. During this interval, there were 269 reported deaths; 258 in patients with hemophilia A and 11 with hemophilia B.[4] In spite of the availability of cryoprecipitate replacement therapy from 1966 onward, the mortality rate showed no tendency to decrease. When viewed by age, appreciably fewer patients under the age of 40 died, but 30% still died prior to reaching age 21.

When the major processes of mortality in the United Kingdom study were analyzed by bleeding site, deaths from intra-abdominal bleeding showed a decline. The presumed reason is that such bleeding is usually obvious, occurs over several days, and generally can be stopped by replacement therapy. Retroperitoneal hemorrhage can be similarly controlled. Cerebral hemorrhages, however, are often sudden and too catastrophic to be affected by replacement therapy. In this study, deaths from intracerebral bleeding appeared to be increasing.

A 1972 survey of hemophiliacs in the United States revealed that the mean age was very low — 11.5 years.[2] Two theories have been proposed to explain this finding. One suggests that older patients needed less care and, thus were seen less frequently by physicians; the other, that patients were actually dying at a young age and were not available for follow-up. The age distribution of hemophiliacs is clearly different from that of the healthy male population with a dramatic shift to the left, or younger, age group. Most hemophiliac patients are less than 35 years old and few have reached middle age.

In the U.S. survey, the age of hemophiliac patients at death ranged from less than one year to 75 years.[3] The median age was 24 years and the average age was 28 years. Further analysis revealed that those who died were more likely to have Factor VIII deficiency than Factor IX deficiency and had moderate to severe disease (as determined by factor levels). An inhibitor to Factor VIII was present in only 11.5% of patients. Autopsy confirmation of the cause of death was available in 38% of patients. Thus, patients with moderate to severe Factor VIII deficiency die young, but inhibitors do not play a major role.

Spontaneous hemorrhage still accounts for nearly half of all hemophilia deaths (Table 1). Of the bleeding deaths, two thirds are related to contral nervous system hemorrhages. Other major causes of death include trauma, suicide, infection, post-operative complications, thrombosis

TABLE 1
CAUSES OF DEATH IN HEMOPHILIA

Spontaneous hemorrhage (CNS 2/3)	45%
Trauma	13%
Suicide	8%
Infection	8%
Postoperative complications	7%
Thrombosis	7%
Cancer	6%
Hepatitis	5%

TABLE 2
CAUSES OF MORBIDITY IN HEMOPHILIA

- Hemorrhage
- Hepatitis/liver disease
- Hematuria
- Hypertension*
- Immunologic injury*
- Arthropathy
- Psychosocial
- AIDS

* Proposed.

and hepatitis.

Major causes of morbidity in the hemophiliac population are listed in Table 2. Presently, intracranial hemorrhage is clearly the major cause of morbidity.[5, 6] The risk of such a hemorrhage is apparently between 2% and 3.5% per year. It is associated with severe disease, age of less than 20 years, and a history of trauma. Sites vary within the nervous system, and there is a high rate of complications, such as seizures, neurological defects or rebleeding. Mortality is very high with 34% of the patients dying during the episode.

Liver disease is another cause of morbidity in hemophilia. Since hemophiliacs receive multiple transfusions, they are subject to hepatitis and other transfusion-associated diseases. Comparison studies between patients receiving only Factor VIII concentrate and those receiving only cryoprecipitate suggest differing rates of liver function test abnormalities, hepatitis B antibody positivity and splenomegaly.[7] These abnormalities suggest that long-term observation of such patients will be necessary for the detection of liver disease.

The risk of hepatitis has long been recognized, but it is only with the recent use of liver biopsies that we have been able to establish the presence or absence of hepatic derangement in asymptomatic individuals.[8, 9] Although few biopsies have been done, the proportion of abnormalities has been high, even in asymptomatic patients. As the management of hemorrhage improves, the primary risk of therapy in this population becomes the development of hepatitis.

TABLE 3
FUTURE PROBLEMS IN HEMOPHILIA

- Supply/replacement problems
- Transfusion-related diseases (AIDS) and others
- Arthropathy
- Long-term pain control
- Factor inhibitors
- Disorders of aging

The major clinical significance of hematuria is the production of obstructive uropathy. It usually is seen in patients with less than 1% procoagulant activity and the incidence appears to increase with age.[10] Recently, immune complex injury has been proposed as a cause. The long-term effects are unknown. It also should be noted that other renal abnormalities, either in renal function or as seen on excretory urography, are very common in this group.

Although there are allusions to an increased incidence of diastolic hypertension in hemophiliacs, few data support this contention. The presence of hypertension, of course, should be regarded seriously because of the increased potential for central nervous system hemorrhage.

Few patients are exposed to such frequent infusions of plasma proteins as are the hemophiliacs. This exposure leads to a potentially increased propensity for developing diseases such as immune complex injury or amyloidosis. In addition, the long-term effects of infusion of thalates (found in plastic transfusion bags) are unknown at this time.

The joint problems peculiar to hemophilia, such as hemarthroses, degenerative joint disease and pseudo-tumors, are discussed elsewhere in this article. Any list of the factors common to hemophilia must include the psychological manifestations that often are secondary to the diagnosis. Problems such as low self-esteem and limited self-confidence, a delay in masculine identification, failure to accept the limitations imposed by the disease, and occasional immaturity may all contribute to erratic behavior that can compromise ideal therapy.

It would be inappropriate to conclude this list of difficulties without a comment about future problems (Table 3). Clearly, inequalities of supply and demand of replacement products will be a major problem as the number of hemophiliacs increases and treatment is more aggressive. Transfusion-related diseases are likely to be with us. Improved disease management will reduce the risk of arthropathy, but eradication of this problem in the near future is unlikely. Long-term pain control without the use of potentially addicting medications will be needed for those with progressive musculo-skeletal disease. The management of coagulation factor inhibitors is a problem now and presumably will be for some time. Finally, as survival is improved, we must anticipate the simultaneous occurrence of hemophilia and the disorders of aging.

Addendum

Since this article was written, a disturbing new complication has arisen in hemophiliacs, that of the acquired immuno-deficiency syndrome (AIDS). AIDS is defined as a reliably diagnosed disease that is strongly suggestive of a defect in cell-mediated immunity occurring in an individual with no known cause of diminished resistance to disease. Pneumocystis carinii pneumonia, Kaposi's sarcoma and chronic generalized lymphadenopathy are common manifestations of AIDS that was first described in homosexual men, then users of intravenous drugs and Haitian immigrants. In 1982, several hemophiliac patients with AIDS were described, adding to the likelihood that the syndrome may be caused by a transmissible agent.

Although the incidence of AIDS in the hemophiliac population is low, its presence is very troublesome.[11, 12] Until the cause is found and a screening test is developed, therapy with blood products, particularly concentrates, will be a cause for concern. Some have suggested that elective procedures be cancelled, doses reduced, and patients switched from factor VIII concentrate to cryoprecipitate.[11] Others have suggested abandonment of home therapy programs.[13] Since the reported cases may represent the entire iceberg and not just the tip, such steps may be premature. (As of June 20, 1983, AIDS became a reportable disease in Missouri.)

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The Missouri Hemophilia Program

(Continued from page 132)

services by utilizing seed money from government sources. The ramifications of such operations could spin off into more than just an efficient delivery of service. There is the potential to generate funding for expanded services and financial assistance to those in need or receiving special care. In terms of savings to the governmental agency, there are potentials for providing expanded services with the same amount of dollar appropriation because there is a capability for a private agency to regenerate funds; there also is the possibility of reducing governmental administration.

In essence, the Missouri State Hemophilia program has developed an innovative, cost-effective means by which to provide expanded services to its clientele while operating on a restrictive budget. This offers a pattern from which other programs may gain impetus to seek alternative modes of services provision in order to better serve the needs of program participants.

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Musculoskeletal Aspects of Hemophilia

Repeated joint bleeds may produce a cumulative result as catastrophic for the life of the affected hemophilic patient as the deformities, disabilities and wrecked dreams produced by septic or rheumatoid arthritis. Prior to the availability of effective replacement concentrates and home treatment programs, severe arthropathy in one or more joints was almost the rule for the adolescent with severe Factor VIII or Factor IX deficiency. Unfortunately, effective replacement therapy will not always prevent arthropathy, and musculoskeletal difficulties remain the primary problem that limits the function of the adult hemophiliac.

Hemophilic Arthropathy

Pathology. The pathologic causes of hemophilic arthropathy can be divided into early and late phases. In the early phase, recurrent bleeds into a joint will result in an inflamed, hypertrophied and highly vascular synovium. Except for hemosiderin deposits, the synovium at this stage is essentially identical to that of rheumatoid arthritis. Like rheumatoid arthritis, the synovitis will cause a pannus to cover the articular cartilage. Synovial fluid analysis also has shown an increased level of hydrolytic enzymes and, in fact, the level of cathepsis D in hemophilic synovium is higher than inflamed rheumatoid arthritis synovium.[1] Because some patients develop a marked synovitis after only two or three joint bleeds, hemophilic arthropathy sometimes seems to act like an autoimmune disease. However, experimental studies also would suggest that the development of arthropathy is directly related to the number of bleeding episodes and that arthropathy will inevitably occur if the bleeding continues.

In the late stage, the causes are similar to osteoarthritis with fibrillations in the articular cartilage, cloning of the cartilage cells and subchondral cysts. From a biomechanical standpoint, focal areas of degeneration lead to abnormal joint mechanics, and the altered stress patterns may potentiate further joint destruction. Eventually, the articular cartilage will be completely eroded away to subchondral bone. In the later stage, the synovium still has pockets of increased vascularity and inflammatory cells. However, it is largely replaced by fibrous tissue and is not the primary cause of the continued joint destruction.

Roentgenographic evaluation. Roentgenograms are helpful in assessing the progression of the hemophilic arthropathy. We use a modification of the roentgenographic rating devised by Arnold and Hilgartner[1] as follows:

grade I	soft tissue swelling
grade II	osteopenia, overgrowth of the epiphysis
grade III	subchondral cyst, squaring of the patella, widening of the intercondylar notch of the femur and trochlear notch of the olecranon
grade IV	narrowing of the articular cartilage, osteophytes
grade V	extensive joint destruction

Although roentgenograms are helpful in assessing hemophilic arthropathy, we have found a wide clinical variability within the same roentgenographic rating. For example, one patient with grade IV changes on his knee x-rays may be having so much difficulty that he is ready for a total joint replacement, while another patient who also has grade IV roentgenograms will be functioning quite well. As in other arthritic conditions, we also have noticed that the joint surface frequently shows more erosion at the time of surgical observation than the preoperative radiographs would have led one to believe.

Clinical stages. It also is useful to divide the arthropathy into acute, subacute and chronic stages. Acute hemarthropathy frequently occurs with minimal trauma or may even be spontaneous in onset. The patient frequently notes a preclinical aura of pain prior to any obvious joint swelling. Physical examination hallmarks include swelling, increased warmth of the joint and limitation of motion. Most episodes of acute hemarthrosis are now treated at home by the patient or his parents transfusing the appropriate replacement to achieve 40% to 50% normal clotting factor levels. This is quite adequate treatment for a minor bleed. For a major bleed, however, additional treatment modalities may be helpful. Joint aspiration not only makes the patient more comfortable but also removes a large volume of blood that the synovium would otherwise have to catabolize. Short-term immobilization by well-padded plaster splints also helps reduce pain. The role of steroids to decrease the incidence of rebleeds is somewhat controversial but also may be helpful.[2]

In subacute hemarthropathy, the patient develops synovitis due to recurrent bleeds. We define subacute hemarthropathy as three bleeds within six weeks in the same joint and/or a persistent, boggy synovium for six weeks after the last apparent bleed.

Although a slight effusion may be present, the joint swelling is largely due to hypertrophy of the synovial tissue. The joint usually retains a good range of motion although minimal loss of motion may be noted at the extremes of movement. In the knee, the hypertrophied synovium is most easily appreciated in the suprapatella region, while in the elbow the hypertrophied synovium is most prominent on either side of the olecranon process. In the ankle, the synovitis is usually noted anteriorly in the region of the extensor tendons.

If further joint destruction is to be prevented, the subacute hemarthropathy must resolve. Our treatment goal is to stop the recurrent bleeding so that the synovial inflammation will decrease. In stage I, this consists of cast immobilization for three weeks followed by six weeks of prophylactic clotting factor replacement. Transfusion to a 25 unit/kg replacement transfusion is given three times a week for three weeks. This is followed by another two weeks of prophylactic replacement given twice a week. Cast immobilization is not used if roentgenograms indicate a grade IV hemarthropathy. Although we think short-term immobilization is helpful in decreasing synovitis, we do not think it should be done if narrowing of the articular cartilage is present.

If stage I treatment fails, we proceed to our stage II protocol for subacute hemarthrosis. Prophylactic replacement is continued on a twice-weekly basis. At the start of stage II treatment, prednisone in a dosage of 2 mg per kg per day is given for seven days. In addition, appropriate bracing is prescribed for the involved weight-bearing joints. With synovial hypertrophy, the joint capsule and the surrounding ligaments are being stretched. These stretched ligaments are at risk for further damage. The bracing not only helps protect the ligaments, but we feel it also helps decrease the possibility of an acute hemarthrosis. Synovectomy is considered only after at least four months of stage II therapy with no improvement in the hemarthropathy. Many patients have much longer treatments than outlined before a synovectomy is considered.

Chronic hemarthropathy is defined as severe flexion contracture with or without synovial hypertrophy. Fifteen years ago, it was not uncommon for hemophilic patients to have 60° fixed knee flexion contractures. Fortunately, this problem rarely occurs today although lesser degrees of chronic contracture may still be seen. The knee flexion contractures are associated with posterior subluxation of the tibia, and routine wedging casts cause further posterior subluxation. The Quengel cast devised by Jordan[3] is helpful in correcting both the posterior subluxation as well as the knee flexion contracture. After correction of the contracture, the knee must be maintained in an extended position by an appropriate long-leg brace. A dial lock hinge on the brace may be helpful in gradually correcting the last 15° of knee flexion contracture.

Although hemophilia may be associated with multiple musculoskeletal problems, an understanding of the pathological process allows treatment programs that may minimize or prevent the development of hemophilic arthropathy. With effective hematologic management, surgery also may ameliorate the deformities. In years to come, patients with hemophilia may be able to maintain relatively normal life-styles and will not be disabled by hemophilic arthropathy.

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General Management of the Hemophilic Patient

During adolescence, the hemophilic patient frequently has difficulty accepting his disease. Although the physicians must advise the patient to avoid activities such as contact sports, a positive attitude is also helpful in managing these patients. Swimming should be encouraged because it is not only a good, all-round exercise but also is relatively safe for the hemophiliac, placing a minimum of stress on the joints. General body exercises such as push-ups and sit-ups are encouraged.

In addition, we recommend a specific strengthening exercise for the quadriceps and hamstring muscles. The knee more than any other joint is involved with hemophilic arthropathy. The knee more than any other joint depends on the surrounding muscles and ligaments for stability. We recommend a modified isokinetic strengthening program done 15 minutes a day. The isokinetic type of strengthening can minimize stress on the patellofemoral joint if its degeneration causes pain during certain arcs of motion. Isokinetic strengthening has also been shown to be best for improving strength.[4] In a six-month trial, a group of hemophilic patients showed a 17% increase in knee extension strength and 22% increase in knee flexor strength.[5] The patients did not show an increase in the acute knee bleeds and did the exercises approximately on an average of two out of three nights.

With chronic hemarthropathy, medications may be helpful in controlling symptoms. Mild analgesics are preferred and acetaminophen (Tylenol) is the main drug used. Anti-inflammatory medications such as ibuprofen (Motrin) or Naproxen (Naprosyn) also have been used with satisfactory results.

Appropriate bracing also may be an aid in the management of chronic hemarthropathy. For the patient with an inhibitor, bracing may be the only alternative to controlling hemarthropathy. Many patients have fixed equinus contractures of the ankle and subtalar joint. These patients seem to have multiple involvements of other joints in the lower extremity. Shoe modifications have been rewarding in our experience. The shoe modification may be as simple as a heel lift to accommodate the fixed equinus contracture. Other shoe modifications include Plastizote inserts with cutouts made to alleviate stress and crepe soles, and they are helpful in absorbing the shock the leg receives on floor contact during walking. If a patient has a severe problem, special shoes may be made with a cushion in the heel and a rocker bottom sole so that the sheer stress during the roll-over phase of gait is minimized.

SURGERY

General management. The development of concentrated replacement therapy has made it possible for reconstructive surgery to markedly decrease the disability related to hemophilic arthropathy. Preoperative evaluation must include a fall-off study to rule out an inhibitor. In addition, studies of liver function are also indicated to rule out hepatitis.

The regimen used for replacement of the missing clotting factor for surgery is still somewhat controversial. All authors agree that replacement should be to the 100% level during the operation. After surgery, some authors maintain 75%-100% levels during the first week, 50%-75% levels during the second week and 25%-50% levels during the third week.[6] Other programs have maintained at least 60% for the first through the fourth days, at least 40% for the fourth through the eighth days, and 20% for physical therapy through the sixth week.[1] Other authors have used bolus therapy after surgery with regimens that maintain at least 30% factor levels for 14 days and at least 20% levels for an additional week if physical therapy is carried out.[7]

In the author's opinion, replacement therapy needs to be somewhat individualized depending not only on the type of surgery but also on the type of clotting defect. For Factor VIII deficiency, continuous therapy to maintain 50% levels is given for ten to 14 days. If extensive bony cutting is done, replacement therapy is usually continued for at least 14 days, whereas if only soft tissue procedures are done, the replacement is only continued for ten days and, sometimes, even reduced to eight days. Surgery and the immediate postoperative bleeding seem to utilize more of the clotting factors, and a certain dose of replacement therapy may not deliver anticipated levels. For that reason, we aim for 75% levels in the initial postoperative period to avoid achieving levels that may be below the 50% mark.

For Factor IX deficiency, intraoperative levels of 80% are achieved by bolus therapy. Due to the risk of deep venous thrombosis, adult patients may need a gradual build-up to this 80% level. Postoperatively, the author thinks that twice-a-day bolus therapy should be used in the Factor IX deficient patient. With soft tissue surgery, trough levels of 25% should be maintained, while with bone surgery trough levels of 40% should be maintained. The replacement therapy again will continue ten to 14 days depending on the extent of the surgery. Although postoperative physical therapy may require continued replacement, we individualize this treatment depending on the type of surgery and the status of the joint.

Synovectomy. Although most of our experience has been with the knee, synovectomy may be helpful in any joint that has recurrent hemarthrosis and hypertrophied synovium. The principle of synovectomy is that recurrent hemorrhage and further joint destruction may be prevented by removing this friable, vascular tissue that is loaded with hydrolytic enzymes. After the synovectomy, the "synovial tissue" that reforms is more fibrous and, therefore, less hemorrhagic. The prerequisites for synovectomy include adequate preoperative medical and brace trials as described above and a good range of joint motion. It also is preferable to do the synovectomy before articular cartilage narrowing becomes apparent on x-rays. Synovectomy, in our experience and in other reports, has indeed resulted in a significant reduction in the number of bleeding episodes.

The main problems with synovectomy have been the difficult postoperative rehabilitation program and the frequent loss of joint motion. In McCollough's series, the average loss was 29° of knee motion. In the author's personal experience, this has also been true.[8] The rehabilitation of the pediatric hemophilic patient has been particularly difficult. Children do not move joints when they hurt and cannot be encouraged to work through "pain barriers" like adults. If areas of full thickness cartilage loss are noted at the time of synovectomy, the pediatric hemophilic patient frequently loses 60° or more of knee motion. A slow motion exerciser has been designed by the author to facilitate rehabilitation after synovectomy in the hemophilic patient. The principle of the exerciser is that motion done very slowly is not painful, and continuous motion may enhance "filling in" of the cartilagenous defects. The exerciser puts the knee through a 60° arc of motion every 15 minutes. Motion is started immediately after the operation and is continued on a 24-hour basis for three weeks. An additional three weeks of continuous motion is done in conjunction with an active range of motion and a strengthening program. Early experience with the continuous passive slow motion has demonstrated improved postoperative rehabilitation.

Reconstructive surgery. Chronic hemarthropathy may need reconstructive procedures or total joint replacements. In the shoulder, total joint arthroplasty would seem to be the procedure of choice. Total joint arthroplasties for the elbow have not been as successful. Because the radial head is usually pathologically enlarged in chronic hemarthropathy, a radial head excision and limited synovectomy may be helpful. This procedure is best done prior to severe humoral-ulnar articular narrowing. However, this is not a contraindication. Our experience is that this procedure results in a decrease in elbow pain and a slight increase in elbow motion. The procedure also may delay or prevent the need for a total elbow arthroplasty. The radial head excision and limited synovectomy can be done through a lateral approach that minimizes ligamentous damage and allows early motion of the elbow.

Chronic hemarthropathy at the wrist may cause carpal tunnel syndrome or symptoms of degenerative arthritis. For severe hemarthropathy, a total joint arthroplasty is usually preferred although a wrist arthrodesis may be a possibility. The total wrist joint replacement is usually preferred when other upper extremity joints are involved. Such is the case in most hemophiliacs.

In the lower extremity, severe hip chronic hemarthropathy has been well served by total joint arthroplasty. Likewise, in the knee, total joint arthroplasty has been very helpful with severe chronic hemarthropathy. In the knee with severe restriction of motion, however, the hemophilic patient who has a total joint arthroplasty frequently winds up with no increase in motion. A better alternative for these patients may be a knee arthrodesis. Chronic hemarthropathy in the ankle is usually associated with subtalar and knee joint problems. The author does not recommend total joint arthroplasty for chronic ankle hemarthropathy. The experience with total ankle replacement in other conditions has not been satisfactory with multiple joint involvements. A preferred treatment for the hemophilic patient would be shoe modification and, if that fails, an ankle arthrodesis.

Extra-Articular Problems

Although fractures are relatively uncommon, two types of fractures are more typically seen in the patient with hemophilia. Supracondylar femur and femoral neck fractures are seen in the young adult patient. In the normal population, these fractures are seen in the elderly. Due to the relative osteopenia and joint stiffness, however, patients with hemophilia tend to sustain these fractures at an earlier age. If possible, fractures in hemophilic patients should be managed without skeletal traction since external pins increase the transfusion requirements. For fractures treated by closed reduction, we maintain replacement therapy for three to six days depending on the degree of displacement and instability of the fracture. For fractures treated by open reduction, transfusion requirements are similar to those described for reconstructive surgery.

Hemorrhage into the muscle compartments may lead to Volkmann's ischemia and ultimately cause nerve damage and muscle contracture. Appropriate factor replacement should be given to the 100% level and then further evaluation of the compartment pressures can be obtained. If the compartment pressure is abnormally elevated and if adequate hemostasis can be obtained, a fasciotomy and epimysiotomy should be done to relieve the intracompartmental pressure and, hopefully, reverse the muscle and nerve necrosis. For chronic Volkmann's ischemia with associated contractures, reconstructive surgery has been helpful.[7]

An iliopsoas or a retroperitoneal hemorrhage also may cause musculoskeletal problems in the patient with hemophilia. This hemorrhage usually presents with intense pain that typically is initially in the groin and then moves to the thigh. The hip is held in flexion and external rotation and a femoral nerve palsy also may be present. Aggressive replacement of the appropriate clotting factor usually resolves the problem although it may take several weeks before the femoral nerve palsy will resolve.

Hemorrhage into the triceps surae is another common problem. These patients have acute swelling in the calf and holding the ankle into equinus. The acute situation may lead to chronic problems since the hemorrhage is replaced by fibrous tissue and scarring leads to a permanent equinus contracture. In addition to appropriate clotting replacement, we have found that the long-term problems may be minimized by appropriate orthopaedic measures. For an acute triceps surae hemorrhage, a well-padded posterior plaster splint with the ankle in the neutral position is used for at least 48 hours. For a hemorrhage that has been present for seven to ten days, a long-leg walking cast with gradual stretching of the triceps surae muscle has been helpful in preventing a fixed contracture. For a fixed contracture of several months' duration, adequate correction has been obtained by serial wedging casts. Lengthening the Achilles tendon may be necessary for more chronic and fixed deformities.

Pseudotumors develop probably secondary to subperiosteal hemorrhage creating a cystic mass that slowly expands and causes increasing bone destruction. Radical excision or amputation is usually required to control the growth of the pseudotumor. If either the size and location of the pseudotumor or the presence of an inhibitor make excision impossible, then radiation therapy may be successful in controlling further expansion of the pseudotumor.

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Please Note!

Scientific programs scheduled for the 1984 MSMA Convention in St. Louis on March 29-April 1 are approved by the Missouri State Medical Association for Category I Continuing Medical Education. They also are acceptable for Prescribed and Elective hours by the American Academy of Family Physicians. Subjects to be discussed in the scientific sessions are included in the convention Preliminary Program published in the January and February issues of MISSOURI MEDICINE.

President's Message

PHYSICIANS SERVICES ARE BEING MERCHANDISED

As you think about your practice, you must wonder "who's in charge?"

Our government wanted all the latest developments to be available in every community hospital. Many of those hospitals were started with Hill-Burton help. So in 1956, Medicare was designed to remunerate physicians at a usual and customary fee, but remunerate hospitals for their Medicare patients on a basis of cost-plus, this was a legal design to encourage the hospitals to make available all current technology. Tremendous technical developments in antibiotics, computerized imagery, respiratory care, microsurgery, transplant and synthetic parts evolved.

Ronald A. Youmans, M.D.

Although more than 90% of the population had purchased health care coverage under standard insurance groups, the Medicare legislation as designed to cover all citizens of retirement age. Through the years, the program developed exactly as anticipated. The bureaucrats became aware of the amount of money being spent and felt they had to have closer control. In controlling this Medicare expenditure, nearly half the physicians practice was being controlled. Functioning under federal guidelines, groups of physicians established HMOs.

Without specific changes in the law but with changes in court interpretation, the milieu that allowed the greatest scientific health-care community to develop has changed. The Federal Trade Commission for years regulated American businesses that produce a specific product. This did not include medicine because (1) was a learned profession requiring art, interpretation and evaluation; (2) health care was provided in the local community and physicians and hospitals were not engaged in interstate activities; (3) the providers of health care were being regulated by local state and community laws; (4) many of the providers of health care were not designed "for profit." By reinterpreting FTC laws, it becomes apparent that the hospital board can now function under multiple boards, some making profits to sustain losses in nonprofit portions of the conglomerate. The courts feel it is enterprising for such a corporation to buy community hospitals and nursing homes funneling all the technical aspects to centralized laboratory facilities. This is done under the concept of "creating competition" rather than regional monopoly.

With TEFRA (1982), the Medicare health care expenses are specifically restricted with the assertion that physicians will always continue to provide maximal quality care. If costs are too high, the money spent can easily be regulated by the Health Care Finance Administration (HCFA). The HHS has the largest contingency of lawyers in any governmental agency to further mold and mitigate interpretations of the law.

Best health care is still provided to the patient by his physician. Financially supporting the third party to finance or regulate the care obviously adds expense that is not a part of patient care. With the expansion of the bureaucracy via insurance and government agencies, this third-party expenditure is mushrooming.

Physicians generally do not "advertise and compete well in the marketplace." These outside forces are assisting in this direction even while lawyers are being chastised by

Supreme Court Justice Burger for losing their public stature through these techniques.

In the midwest, we have seen physicians organizing HMOs and PPOs and then offering services to the industrial community. In Florida, this is reversed; the industrial community is selecting physicians to build their own plans. In Arizona, major corporations feel the "health care industry" has enough problems that public referendum should be used to resolve specific problems. Should we be using local referendum to resolve problems we have with corporations in industry?

While the Diagnosis Related Group problems have not yet been fully implemented, they are regarded as a temporary device until a more firm spending-control system can evolve.

Physicians have been discussing these problems with their patients, but this constitutes 5% of the population. Is it time to buy newspaper space to speak to the 95% of the healthy people not yet utilizing the bureaucratic health care program? We have been talking to legislators; I suspect they will listen more carefully to precisely what is being said to the voting public. Do you really think the persons under Medicare realize the limitations that will develop within a year or two with the literal cap on expenditures? If the government is expending too much money, let it specify an allowance and allow billing for the difference. The indemnity plan would again allow the most powerful regulatory mechanism for quality, cost and availability to come into play, i.e., excellent patient care.

Doctor:

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Missouri State Medical Association

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March 29-April 1, 1984

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The Annual Convention provides an excellent opportunity to meet with fellow physicians and to continue one's medical education. The three-day scientific program offers 25 sessions approved for Category I Continuing Medical Education by the Missouri State Medical Association.

All spouses of MSMA members are invited to participate in the MSMA Auxiliary programs during the Annual Convention.

MSMA Auxiliary

The only limit to our realization of tomorrow will be our doubts of today. Let us move forward with strong and active faith. — Franklin D. Roosevelt

While thinking of my past year as president of the Missouri State Medical Association Auxiliary, I find many thoughts running through my mind — the goals, challenges and resolutions. What were they and how did they affect us? How has our image changed for the better? Does the general public view us in a better light? Have we made a visible mark on our communities?

Mrs. Donald Sanders
President

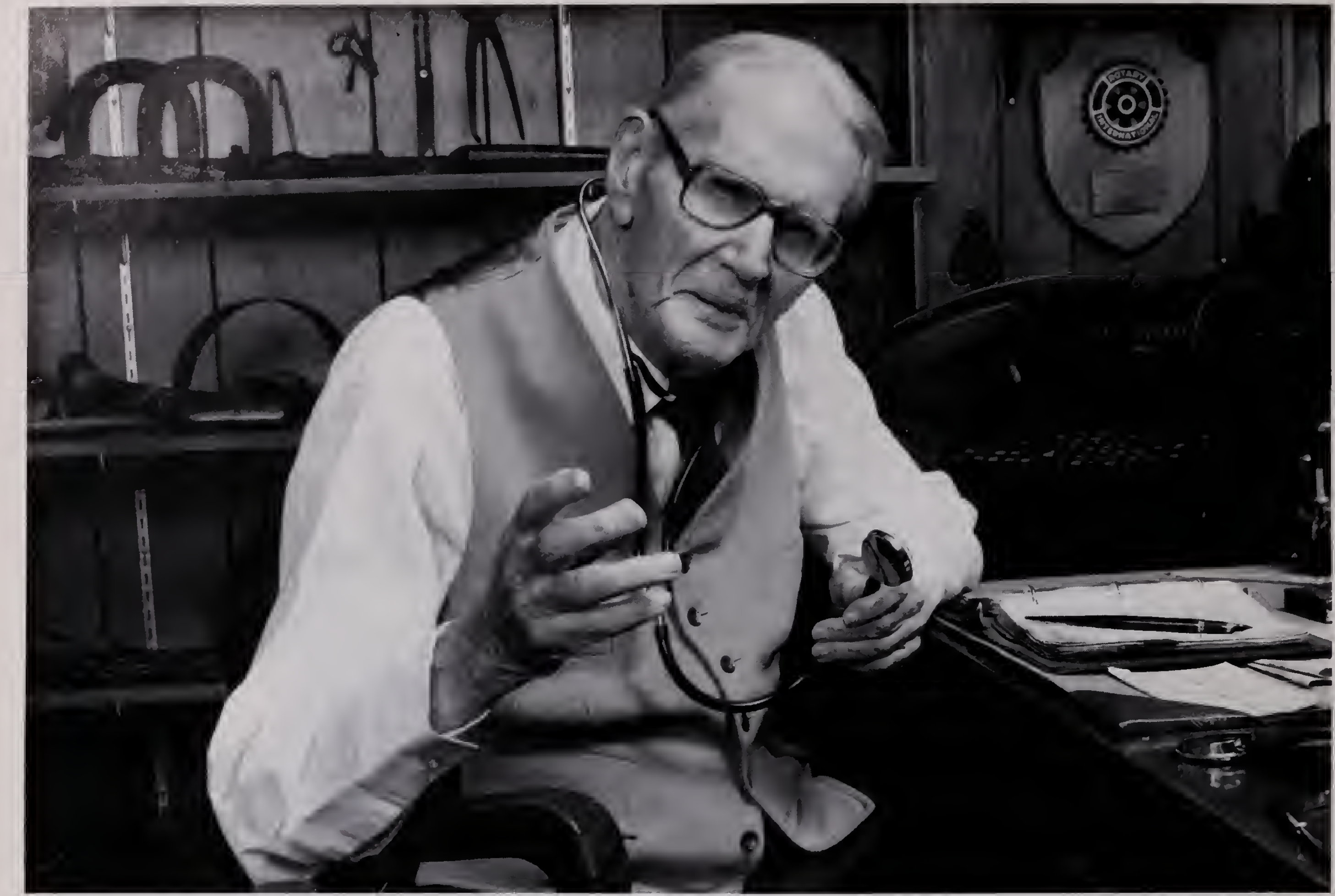
As I attend the 1984 convention and the close of my presidential year and "look back," I believe that our accomplishments have been many. Our Key Contact Program has progressed and we have become more involved in the legislative area. We are on the march to regain former members and to gain new members. We are offering more variety in the programming across the state as each individual group meets the needs of its specific community. We are working on organ donor programs, drug and alcohol abuse programs, education regarding the auto safety restraint seats for children, promoting safety belts for adults via bumper stickers, child abuse and, very special to the Auxiliary, raising additional funds for medical education.

This year has offered to me a challenge, an opportunity and an honor to serve alongside so many dedicated people. I would like to extend a very special "thank you" to members of the MSMA Council and staff, to our MSMA/A Liaison Jean Duensing, to the Jackson County Medical Society and Auxiliary, to the MSMA Auxiliary Board and to all those members for their constant help, understanding and willingness to serve.

It is my feeling that we have tried to renew, recruit, refresh, reactivate and reach out. Now, it is time to pass the gavel to a fresh new team to carry on. Thank you for the privilege of serving in this special way this year.

As George Washington Carver stated, "When you can do the common things in life in an uncommon way, you will command the attention of the world."

Please come and join us at our convention as we continue to reach out as you have reached out to each other and those around you for better health and understanding.



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Special Article

Medicare — Its Potential and Problems

By
C. DUANE DAUNER, President
Missouri Hospital Association
Jefferson City

Since 1965, health care in the United States has been shaped primarily by two policies: (1) the belief that health care is a right and (2) the desire that everyone should have access to state-of-the-art technology.

These premises, while well-intentioned, have created "high-style" demand as well as "high-style" health delivery systems. Through improved technology and the application of advanced medical knowledge, life expectancy has increased from 68 years to 74.5 years since the enactment of Medicare. The fastest growing segment of our population are those beyond age 75, the age group in which chronic illness and comorbidity are most prevalent. The problem of providing health care to the elderly is compounded in Missouri, which ranks fifth among all states in the percentage of population age of 65 and older.

The federal government's obligation to provide health care to the elderly grows year after year as the population ages; rather than simply budget to meet that obligation, the federal government has set into place a number of controls forcing hospitals and their medical staffs to curtail services to Medicare patients. In short, the government does not want to pay for the system it has created. The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and the Social Security Amendments of 1983 created radically different incentives for hospitals under Medicare. The flat rate of TEFRA and prospective DRG (diagnosis-related group) payment mechanism of 1983 place hospitals at risk for every Medicare patient. No longer is the hospital paid on a fee-for-service basis; hospitals are paid pre-determined prices per case, irrespective of the patient's condition or length of stay. Already, the work force of Missouri hospitals has been reduced by 4,000 employees, and more cutbacks will occur in the future. Similarly, hospitals will have to weigh carefully every decision concerning the maintenance of equipment and facilities, the continuation of certain high-cost services, and the addition of new technology needed by physicians to perform state-of-the-art tests and treatments.

> The problem of providing health care to the elderly is compounded in Missouri, which ranks fifth among all states in the percentage of population of age 65 and older.

> Already, the work force of Missouri hospitals has been reduced by 4,000 employees and more cutbacks will occur in the future.

We may look back from the future and proclaim the DRG payment scheme a success. Only time will tell. In the meantime, efforts are underway to change the method of paying physicians for inpatient care of Medicare beneficiaries to a DRG system as well. Such a move will create additional incentives for physicians to practice "low option" care. In 1984, we can expect to see legislation introduced in Congress to extend prospective payment to all payers and to reform the medical malpractice system. The budgetary pressures in the public and private sector may make Congress receptive to such sweeping social change.

In the face of change that has occurred already and change that is only being contemplated, hospitals and their medical staffs have identified several immediate problems that need to be corrected. They are summarized below:

1. Congress intends that capital, including return on equity, be incorporated into the Medicare prospective prices by 1986. The Secretary of Health and Human Services has been requested to present recommendations to Con-

gress for prospective capital payments by October, 1984. The American Hospital Association has prepared a proposal for incorporating capital cost into Medicare prospective DRG prices producing a consolidated price for each DRG. Following are the major features of the proposed approach:

- the capital payment factor to be included in the price would be set as a percentage amount applied to all DRG prices;
- the percentage amount would be the sum of both a return *of* capital (the cost of consuming capitalized assets; that is, depreciation expense) and a return *on* capital (the cost of using money; such things as inflation, interest expense, dividends and capital gains, and services — like free care to the needy — returned to the community);
- the consolidated price would be updated annually, with the updating index specifically recognizing capital goods and an inflation factor;
- a transition period would be available to protect hospitals that recently have incurred large capital financing commitments or hospitals that must make large expenditures to comply with codes and standards; and
- the phase-in period should apply to hospitals that have significant capital indebtedness that must be retired.

If budget neutrality is maintained, major shifts in payment for capital will create worse distortions than are occurring under the prospective payment system for operational expenses. The difference with capital is its fixed nature; that is, the debt service commitments cannot be ignored. Hospitals could be forced to pay bondholders, at the expense of services, access, quality and manpower resources.

In 1984, we can expect to see legislation introduced in Congress to extend prospective payment to all payers and to reform the medical malpractice system.

2. The area wage index is distorted in several ways: it fails to differentiate between part-time and full-time employees; it does not reflect the influence of adjacent urban areas on the level of wages paid in selected rural hospitals; it applies a single wage index value to all rural hospitals in a state; and it gives no recognition to unique types of employees found within hospitals.

The Health Care Financing Administration (HCFA) recognizes many of the shortcomings of the wage index. Currently, it is trying to resolve the part-time/full-time problem, and it has invited hospital industry representatives to assist in refining the index for the next fiscal year. Of course, this effort will not correct what could be serious distortions in the first prospective year.

The final regulations continue to deny hospitals the right to challenge their published case-mix indexes.

Hospitals were told to estimate these costs, and adjustments were to be made via HCFA's Form 1008. However, the estimating process involves much guesswork. The final rule stipulates that base-year adjustments can be appealed with retroactive application. However, the appeal is very narrow and limited to whether the adjustments were made in accordance with the statute and regulations and whether the intermediary was unreasonable and clearly erroneous in its assessment of the data. Finally, if hospitals seek base-year adjustment appeals, no additional or new data can be presented in the review process. Information is limited to that already supplied to the intermediary. Since the majority of Missouri hospitals are now subject to prospective pricing, and without the ability for these hospitals to supply new data on adjustment issues, this appeal mechanism seems extremely limited.

This appeal item continues to generate substantial controversy. While base-year, cost-report items that are appealed and upheld for hospitals are theoretically not subject to either the limits set by TEFRA or the budget neutrality factor, the magnitude of such appeals could be considerable, especially for traditional group appeal items such as malpractice insurance expense. Allowance of such costs retroactively will increase trust fund outlays substantially at a time when the fund is in serious financial difficulty. A precedent was set by Congress during the development of TEFRA when Hill-Burton court decisions related to Medicare payment for uncompensated care seemed to be leaning in favor of hospitals. Congress simply put an end to the issue by adopting an amendment. We fear that the same sort of unfair action will be taken if hospitals continue their legitimate right to seek base-year cost-report appeal adjustments.

3. In the prospective pricing system, geographical distinctions become critical. There are serious considerations about urban vs. rural designations, as well as serious debate about service areas in which the census division boundaries meet.

There is an average difference of $500 per case in the federal price paid to urban and rural hospitals.

Resolution of the geographic problem, which will exist for the next three years, will be difficult. There is an average difference of $500 per case in the federal price paid to urban and rural hospitals. A considerable number of hospitals technically classified as rural have costs that are comparable to urban hospitals for various reasons: proximity, labor markets or union contracts, for example. The existing statutory language that created the Medicare PPS and, therefore, the implementing regulations do not provide for any adjustments by the Department of Health and Human Services (HHS) to reclassify a rural hospital as urban. It is highly unlikely that HHS will undertake such adjustments without a legislative mandate because of fiscal pressures from the Office of Management and Budget and because of HHS internal staffing constraints.

Regardless of how geographic distinctions between urban and rural locations are drawn, some hospitals always will be on the "wrong" side of the line. We believe that a hospital should be permitted an increase in the federal price equal to that of its neighboring urban institution if it can demonstrate similar operating characteristics.

4. The final regulations provide no appeal mechanism for hospitals seeking to challenge their 1981 published case-mix indexes. Further, the interim regulations only allowed hospitals with fiscal year starts between Oct. 1, 1983 and Nov. 15, 1983 to appeal their base-year adjustments (HCFA Form 1008) until November 16, 1983. A change in the final rule allows hospitals a narrowly defined appeal process to challenge base-year adjustments. Finally, the regulations permit contested base-year cost-report items to be recognized in the hospital-specific component of the DRG price prospectively in the year following the year in which an appeal is won. For all practical purposes, base-year cost-report items never will be reflected in a hospital's rate because such appeals typically take five or six years to process, and the hospital-specific price is only in place until cost-reporting periods beginning in federal fiscal year 1987.

   The final regulations continue to deny hospitals the right to challenge their published case-mix indexes. While few hospitals probably would seek to adjust their case-mix indexes, some hospitals' indexes do not reliably reflect case-mix in their base years.

5. A major change in the move to the prospective pricing system is the rebundling of many items previously paid under Part B of Medicare and shifting them to Part A. Examples may include prosthetic devices or lenses to be implanted. An extraordinarily unfair example is applicable in Jefferson City where the three hospitals agreed to share a CT scanner in a fourth facility in the interest of cost-effectiveness. Now, all three hospitals must include the cost of those scans and the patient transport costs in their DRG price because the service has been shifted to Part A coverage.

6. HCFA has decided to blend the federal component of regional and national prices according to the federal fiscal year rather than a hospital's fiscal year. This means that hospitals with fiscal years beginning other than October 1 will not have a full year of a fixed amount of regional and national prices during the three-year transition. Rather, the amount will change for Medicare discharges incurred after each October 1, thereby accelerating the phase-in of the national price in the federal component. The final regulations published by HCFA do not correct this inequity.

The final regulations, issued on Jan. 3, 1984, reduced the average prospective prices by approximately $10 to $13 per discharge.

7. The question of how HCFA will pay for renal

dialysis services provided to Medicare inpatients admitted for non-renal problems is a legitimate concern of hospitals. We believe renal dialysis services (commonly referred to as ESRD) provided to inpatients require special consideration because of the sizable cost of providing dialysis. Moreover, if end-stage renal disease patients are not hospitalized, Medicare nevertheless pays for services on an outpatient basis. The final regulations stipulate that no special adjustments for dialysis will be made. Rather, the patient's DRG price is payment in full.

8. The final regulations, issued January 3, 1984, reduced the average prospective prices by approximately $10 to $13 per discharge. According to the regulations, these reductions were made as a result of more recent data showing a continued downward rate of increase in hospital 1983 inflation costs per discharge from 11.7% to 10.9%. This is a clear indicator of the Secretary's intention to make full use of the ratcheting mechanisms available in the prospective pricing scheme.

Indeed, the challenges facing hospitals and physicians during this transition phase of health payment and delivery policy may seem overwhelming. Never before have health professionals lived in such a frightening yet thrilling era. Let's use the strengths of our organizations to influence the national policymaking processes and work together to mold the most cost-effective, efficacious health care system possible in Missouri. We must ensure that the health policies of the future rely on the private sector in the marketplace, a combination that has proven to be more successful than government-dominated systems anywhere in the world.

Benefit Auction VI to be Held at St. Louis Convention

The sixth effort to create additional funds via a benefit auction for the Missouri State Medical Foundation (MSMF) and the American Medical Association Education and Research Fund (AMA-ERF) will be held at 6:30 PM on Thursday, March 29 during the MSMA Annual Convention at Marriott's Pavillion Hotel in St. Louis.

Co-sponsored by the MSMA and the MSMA Auxiliary, proceeds gained from last year's benefit auction totalled more than $10,000. The goal is higher this year.

While the auction is produced by the Auxiliary, the cooperation and interest of MSMA members in this special event should enable both the Medical Association and Auxiliary to substantially increase contributions to both funds.

Mrs. William Huffaker of St. Louis, chairman of this year's auction, requests that everyone who has selected items to donate to notify her now. Her address is 134 Pinehurst Estates Dr., St. Louis 63141 and her phone number is (314) 576-3878.

The MSMF is the Missouri State Medical Association's not-for-profit corporation to grant loans at special rates to young Missouri men and women medical students. It was established in 1961. Without these available funds, many of these students might not be able to study medicine.

Items to be auctioned are contributed by MSMA and Auxiliary members and friends. Individuals who bid successfully are privileged to name the fund recipient of their contributions.

The Auxiliary is asking members of both organizations to contribute worthwhile items such as antiques, paintings, objets d'art, quilts, art and craft items. Members are encouraged to use their own ingenuity in selecting articles they believe will add to the attractiveness of the auction.

The Auxiliary asks that contributors bring their auction items to the Ambassador Room at the hotel between 9 AM and 3 PM on Thursday, March 29.

Receipts will be issued for all items donated and contributors are asked to attach a description of their items for the auctioneers.

Mrs. Donald Sanders, president of the Auxiliary, urges all members to again attend this important event that raises needed funds and also has proved to be a special convention opportunity for fun and friendship.

OFFICIAL DELEGATES

126th MSMA Annual Convention

Component Society	*Delegates*	*Alternates*
Andrew	Warren C. Baker, Savannah	Donald R. Frey, Savannah
Audrain	Raymond Wilbers, Mexico	Thomas Welsh, Mexico
“	John T. Critchlow, Mexico	Joseph Corrado, Mexico
Barton	Alvin R. Cain, Lamar	H. E. Piedra, Lamar
Boone	William C. Allen, Columbia	Thomas W. Burns, Columbia
“	William D. Bradshaw, Columbia	George W. Eggers, Columbia
“	James Chapel, Columbia	Winston Harrison, Columbia
“	Kenneth L. Rall, Columbia	Mary Alice Helikson, Columbia
“	Hugh E. Stephenson, Jr., Columbia	Jerry D. Kennett, Columbia
“	Robert M. Thomas, Columbia	Jerry W. Templer, Columbia
“	William D. Trumbower, Columbia	Wilson Beckett, Columbia
“	James A. Roller, Columbia	William Davis, Columbia
“	Thomas R. Anderson, Columbia	Vincent Gurucharri, Columbia
“	Diane T. Brukardt, Columbia	Georgia Nolph, Columbia
“	James C. Denninghoff, Columbia	James Weigel, Columbia
“	Richard A. Heimburger, Columbia	Lawrence Lampton, Columbia
“	Ben Moranville, Columbia	
“	Gilbert Ross, Columbia	
“	Garth S. Russell, Columbia	
Buchanan	Gary A. Dyer, St. Joseph	Nelson G. Escobar, St. Joseph
“	Orlyn O. Lockard, Jr., St. Joseph	Kay Rauth-Farley, St. Joseph
“	Wallace McDonald, St. Joseph	C. Keith Goeking, St. Joseph
“	Thomas M. Sodeman, St. Joseph	William D. Miller, St. Joseph
“	Robert R. Stuber, St. Joseph	Carlos E. Moya, St. Joseph
“	Ernest E. Wadlow, St. Joseph	Robert L. Sourk, St. Joseph
“	Eugene G. Wolanski, St. Joseph	Donald E. Sklenar, St. Joseph
Butler-Wayne-Ripley-Carter	Ben Till, Poplar Bluff	T. E. Ruff, Poplar Bluff
“	Henry Lestmann, Fairdealing	Kirby Turner, Poplar Bluff
“	W. D. Robertson, Poplar Bluff	Robert H. Laatsch, Poplar Bluff
“	John Hunt, Poplar Bluff	Don Andrus, Poplar Bluff
Callaway		
Cape Girardeau	Dale M. Blankenship, Cape Girardeau	John K. Holcomb, Cape Girardeau
“	Jean A. Chapman, Cape Girardeau	
“	Charles E. De Felice, Cape Girardeau	Mark C. Kasten, Cape Girardeau
“	Gordon W. Eller, Cape Girardeau	Jerry L. Kinder, Cape Girardeau
“	J. Marshall Jung, Cape Girardeau	Harold D. Ridings, Cape Girardeau
“	Theodore Glenn, Cape Girardeau	Ronald W. Swinfard, Cape Girardeau
Chariton-Macon-Monroe-Randolph	F. A. Barnett, Paris	J. Will Fleming, Moberly
“	James E. Campbell, Macon	Gary La Monda, Harrisburg
“	Daniel Stuart, Brunswick	Kenneth Kays, Moberly
“	C. C. Cohrs, Moberly	
Clay-Platte	Frank J. Albani, Liberty	Dwight Cashier, Platte City
“	Carl M. Myers, Platte City	Nathan Burroughs, N. Kansas City
“	Richard P. Bowles, Liberty	Ramon R. DyRagos, Kansas City
“	Donald A. Fakhoury, Kansas City	John C. Hagan, III, N. Kansas City
“	Donald E. Kuenzi, Kansas City	Nicola Y. Katf, Kansas City
“	William D. Soper, Liberty	Joseph G. Kelly, Liberty
“	Stephen E. Vilmer, Kansas City	Janice K. McGovney, Smithville
Clinton		
Cole	Nelson White, Jefferson City	Thomas Ryan, Jefferson City
“	Donald Miller, Jefferson City	Francis Meier, Jefferson City
“	Carl Doerhoff, Jefferson City	
“	Johannes Schokker, Jefferson City	
“	Royal Garner, Jefferson City	
Cooper		
Dallas-Hickory-Polk-Dade	Keith A. Wright, Bolivar	Jan Kakolewski, Greenfield
“	M. E. Griffin, Buffalo	Olin Griffin, Buffalo
Dunklin	Otis A. Plunk, Kennett	Lanny W. Geary, Kennett
Franklin-Gasconade-Warren	George Workman, Hermann	James Shaw, Hermann
“	James Turner, Washington	Guy Kline, Sullivan
“	John O'Connor, Warrenton	Tim Long, Marthasville
Grand River	Frank R. Daley, Hamilton	William Fair, Chillicothe
“	R. H. Staton, Carrollton	John Platz, Carrollton

Component Society	*Delegates*	*Alternates*
“	Edward Nixon, Gallatin	George Mandler, Chillicothe
“	Albert D. Cross, Trenton	David Ryan, Trenton
“	Merriam Gearhart, Bethany	Thomas N. Cofer, Chillicothe
“	John R. Dixon, Brookfield	Billy D. Howell, Brookfield
“	Joseph A. Conrad, Chillicothe	Jin Soo Yoon, Chillicothe
“	Willard Ellsworth, Cainsville	Oliver F. Duffy, Trenton
Greene	Stanley Peterson, Springfield	Marc McCorele, Springfield
“	H. B. Ivy, Springfield	Thomas Tombridge, Springfield
“	Darrel Domann, Springfield	Carol Berner, Springfield
“	Don Menchetti, Springfield	Norman Wall, Springfield
“	Floyd Barnhill, Springfield	Gary Walker, Springfield
“	Ramon Shane, Springfield	Roy Holand, Springfield
“	M. S. Clarke, Springfield	Jay Milne, Springfield
“	DeArmond Moore, Springfield	Norman Knowlton, Springfield
“	David Hall, Rogersville	Robert Coscia, Springfield
“	James Wolfe, Springfield	Ronald Wachter, Springfield
“	Dan Sullivan, Springfield	James Shaeffer, Springfield
“	W. B. Johnson, II, Springfield	Stanley Hayes, Springfield
“	Courtney Whitlock, Springfield	Jeff Johnson, Springfield
“	Michael Gentry, Springfield	Dewayne Piker, Springfield
“	Richard Kissell, Springfield	Nancy Ceaser, Springfield
“	Duane Hellam, Springfield	William Clary, Springfield
“	A. A. Ancheta, Springfield	Barry Farber, Springfield
Henry		
Howard	Maurice Leach, Fayette	William Marshall, Glasgow
Jackson	William J. Medlicott, Kansas City	
“	Raymond J. Caffrey, Kansas City	
“	R. Stacy Long, Kansas City	
“	E. Jerome Hanson, Kansas City	
“	Donald A. Potts, Independence	
“	Keith W. Ashcraft, Kansas City	
“	Steven H. Behrends, Kansas City	
“	Douglas B. Bogart, Kansas City	
“	Robert G. Schwegler, Kansas City	
“	Kevin R. Dye, Kansas City	
“	Calvin E. Engelmann, Kansas City	
“	Floyd J. Freiden, Kansas City	
“	Stephen C. Hamburger, Kansas City	
“	King Y. Lee, Kansas City	
“	Charles P. Gauthier, Kansas City	
“	Jon E. Gustafson, Independence	
“	Lloyd M. Harlow, Kansas City	
“	Richard T. O'Kell, Kansas City	
“	John K. Layle, Jr., Kansas City	
“	Thomas B. McKell, Kansas City	
“	Chester F. Fee, Kansas City	
“	L. Douglas Richardson, Kansas City	
“	Douglas B. Paone, Kansas City	
“	Elias M. Throne, Kansas City	
“	John D. Pro, Kansas City	
“	Michael F. Hughes, Kansas City	
“	George E. Volk, Kansas City	
“	Wade V. Robinett, Kansas City	
	(Note: The balance of 65 delegates from Jackson County Medical Society had not been elected at the time this issue of MISSOURI MEDICINE went to press.)	
Jasper	Jim D. Frogge, Joplin	Ned B. Chase, Joplin
“	T. Keith Grebe, Joplin	Frank I. Clark, Joplin
“	Walter C. Dandridge, Joplin	Herbert K. Dixon, Joplin
“	Adolph R. Mueller, Joplin	Mark A. Judge, Joplin
“	Carl C. Pearman, Joplin	Michael D. Nickell, Joplin
“	Robert L. Willcoxon, Joplin	Frederick M. Brandon, Joplin
Jefferson		
“		
Johnson		
Laclede		
Lafayette-Ray		
“		
Lake of the Ozarks	Chris Fotopoulos, Osage Beach	
“	Otis Moseley, Osage Beach	
“	Ruth Kauffman, Versailles	
Mid-Missouri		
“		

Component Society	*Delegates*	*Alternates*
“		
“		
Mineral Area		
“		
“		
“		
“		
Moniteau	Lionel M. Gallagher, California	Richard B. Fulks, California
Montgomery	Samuel J. Byland, Wellsville	
North Central	Ronald Phillips, Kirksville	Milton T. English, Kirksville
“	Francis Tarvydas, Edina	
Northeast	John H. Walterscheid, Hannibal	Purificacion Florendo, Hannibal
“	Russell Comer, New London	Lynn J. Walley, Hannibal
“	Charles Lichty, Shelbina	Carl Kruse, Palmyra
Northwest	James Humphreys, Mound City	Kenneth Jefferis, Maryville
“	Edward Bare, Tarkio	James Hunter, Fairfax
“		Robert Dunshee, Maryville
“	Pat Harr, Maryville	Manuel Runez, Maryville
“	Albert Carlin, Stanberry	Kanti Havaldar, Maryville
Ozarks	Richard Betz, Neosho	George Blankenship, Neosho
“	J. L. Bizek, Aurora	Dan Campbell, Mt. Vernon
“	Mary Newman, Cassville	Sergio Cruz, Monett
“	Robert Betz, Neosho	
Pemiscot	James G. Hazel, Hayti	
Perry-Ste. Genevieve		
“		
Pettis	William R. Cole, Smithton	Elmer Van Dyke, Sedalia
“	T. J. Hopkins, Sedalia	
Pike		
St. Charles-Lincoln	Paul Rother, St. Charles	Martin Willman, St. Charles
“	Ed Damron, Elsberry	Wm. Poggemeier, St. Charles
“	Robert Cusworth, St. Charles	Richard Olson, St. Charles
“	Brian Stufflebaum, St. Peters	Randall G. Friesen, St. Charles
“	H. Y. Muhm, St. Charles	John J. Mentel, St. Peters
St. Louis Metropolitan	Paul L. Friedman, St. Louis	Eugene R. Adelmann
“	Bruce Stoliar, St. Louis	Areh M. Ahern, St. Louis
“	Charles L. Abramson, St. Louis	Donald E. Beckman, St. Louis
“	J. Mario, Alonso, St. Louis	Donalt T. Behrens, St. Louis
“	Charles B. Anderson, St. Louis	Paul J. Bettonville, St. Louis
“	Luis B. Anglo, St. Louis	John D. Bouhasin, St. Louis
“	Robert J. Baglan, St. Louis	Thomas Bourke, St. Louis
“	William H. Bailey, St. Louis	Joseph C. Boveri, St. Louis
“	Vernon H. Balster, St. Louis	Robert L. Brereton, St. Louis
“	M. Roman Banton, St. Louis	Francis J. Burns, St. Louis
“	William C. Banton, II, St. Louis	Carlo P. Caciolo, St. Louis
“	Martin J. Bell, St. Louis	Edward M. Cannon, St. Louis
“	William Berman, St. Louis	Anthony F. Catanzaro, St. Louis
“	John Berry, St. Louis	Jon D. Cooksey, St. Louis
“	Arjun Bhattacharya, St. Louis	Barry J. Cooper, St. Louis
“	Sarwath Bhattacharya, St. Louis	Joseph P. Costello, St. Louis
“	Ralph L. Biddy, St. Louis	Udaya Dash, St. Louis
“	James G. Blythe, St. Louis	Burl M. Dillard, St. Louis
“	George M. Bohigian, St. Louis	John F. Donovan, Jr., St. Louis
“	C. Read Boles, St. Louis	Dennis A. Dusek, St. Louis
“	Robert L. Bolton, St. Louis	Dallas J. Dyer, St. Louis
“	Leslie F. Bond, St. Louis	Rocco Fiordelisi, St. Louis
“	Alfred Bosehe, St. Louis	Waldo W. Forsman, St. Louis
“	Harold H. Bowerman, St. Louis	Albert Gnade, St. Louis
“	Arnold G. Brody, St. Louis	Gary J. Gray, St. Louis
“	Robert D. Brookes, St. Louis	James J. Hasenmueller, St. Louis
“	Kenneth Bruns, St. Louis	Thomas M. Hawk, St. Louis
“	R. William Burmeister, St. Louis	Ronald E. Hoffmann, St. Louis
“	Fritz A. Byrum, St. Louis	Charles K. Holbrook, St. Louis
“	Edmond B. Cabbabe, St. Louis	Albert M. Huggins, St. Louis
“	Gerard M. Callaghan, St. Louis	William M. Irvin, St. Louis
“	Donald E. Callahan, St. Louis	John Johnstone, Jr., St. Louis
“	Sol F. Cantor, St. Louis	George P. Katsantonis, St. Louis
“	Mary E. Case, St. Louis	Jack Kayes, St. Louis
“	Frank Catanzaro, Jr., St. Louis	Karl L. Keffler, St. Louis
“	Rudolph E. Catanzaro, St. Louis	John G. Kellett, St. Louis
“	Mieheal J. Chehval, St. Louis	John King, Jr., St. Louis

Component Society	*Delegates*	*Alternates*
“	Octavio R. Chirino, St. Louis	Richard J. Kloecker, St. Louis
“	Harry O. Cole, St. Louis	Russell R. Kraeger, St. Louis
“	Donald L. Coleman, St. Louis	William F. Leightner, St. Louis
“	Nicholas J. Colosi, St. Louis	Everett R. Lerwick, St. Louis
“	Mario A. Coronado, St. Louis	MacDonald B. Logie, St. Louis
“	Kenneth D. Corwin, St. Louis	Samuel Lugo, St. Louis
“	Cyril Costello, St. Louis	Herluf G. Lund, St. Louis
“	David J. Costigan, St. Louis	Howard Mahler, St. Louis
“	Joseph A. Costrino, St. Louis	Robert H. Marcus, St. Louis
“	Reno Cova, St. Louis	Philip L. Martin, St. Louis
“	James R. Criscione, Jr., St. Louis	Forbes A. McMullin, St. Louis
“	Charles H. Dahm, Jr., St. Louis	Charles Miller, Jr., St. Louis
“	Richard J. Dames, St. Louis	Frede Mortensen, St. Louis
“	Richard K. Danis, St. Louis	Julian Mosley, St. Louis
“	Ray Davis, St. Louis	Daniel J. Murphy, St. Louis
“	James W. Debman, Jr., St. Louis	Joseph J. Naryka, St. Louis
“	Fernando J. DeCastro, St. Louis	Robert M. O'Brien, St. Louis
“	Pablo C. deUngria, St. Louis	Alejandro C. Ojascastro, St. Louis
“	Peter A. Diemer, St. Louis	Francis X. Paletta, St. Louis
“	Robert M. Donati, St. Louis	Antonio R. Penilla, St. Louis
“	Henry C. Dugas, St. Louis	Bhaskara M. Ponnuru, St. Louis
“	V. P. Dumadag, St. Louis	John A. Powell, St. Louis
“	James E. Edwards, St. Louis	William G. Ridgeway, St. Louis
“	Devera M. Elcock, St. Louis	Nitai Saha, St. Louis
“	Ronald G. Evens, St. Louis	Percival B. Salanga, St. Louis
“	Daniel C. Fabito, St. Louis	Glennon S. Schaefer, St. Louis
“	John S. Farrell, St. Louis	Paul M. Scheele, St. Louis
“	Anthony E. Fathman, St. Louis	George R. Schoedinger, St. Louis
“	Linda A. Fisher, St. Louis	Richard E. Schrick, St. Louis
“	George D. Flanigan, Jr., St. Louis	James J. Seeley, St. Louis
“	Mariano N. Floro, St. Louis	Jitendra P. Shah, St. Louis
“	Sylvester A. Flotte, St. Louis	Charles J. Sigmund, St. Louis
“	Kirk E. Flury, St. Louis	Charles Silverberg, St. Louis
“	Harold Franklin, St. Louis	Andrew D. Spencer, St. Louis
“	Thomas F. Frawley, St. Louis	Antonio R. Suba, St. Louis
“	John A. Gantz, St. Louis	Clement J. Sullivan, St. Louis
“	David L. Gearhart, St. Louis	John B. Summers, St. Louis
“	August W. Geise, St. Louis	Joseph A. Swope, St. Louis
“	Lance D. Gerowin, St. Louis	Mary W. Thomasson, St. Louis
“	John H. Gladney, St. Louis	Robert E. Thomasson, St. Louis
“	Bray O. Hawk, St. Louis	Joseph C. Ungvari, St. Louis
“	George L. Hawkins, Jr., St. Louis	Joseph B. Vacca, St. Louis
“	John A. Headrick, St. Louis	H. Philip Venable, St. Louis
“	Marijan Herjanic, St. Louis	Stephen E. Vierling, St. Louis
“	Albert E. Hesker, St. Louis	Joseph G. Viviano, St. Louis
“	Patrick C. Hogan, St. Louis	Leo L. Wacker, St. Louis
“	Richard J. Hollocher, St. Louis	William B. Webber, St. Louis
“	William H. Huffaker, St. Louis	Newton B. White, St. Louis
“	Joshua E. Jensen, St. Louis	John Winter, St. Louis
“	Joshua E. Jensen, II, St. Louis	Harry A. Wittler, St. Louis
“	Sidney Jick, St. Louis	Horst Zekert, St. Louis
“	Charles J. Johnson, St. Louis	J. Regan Thomas, St. Louis
“	Otey S. Jones, St. Louis	
“	Mohammed A. Kabir, St. Louis	
“	John H. Kendig, St. Louis	
“	Abdul R. Khan, St. Louis	
“	Ralph A. Kinsella, Jr., St. Louis	
“	William A. Knight, St. Louis	
“	Harry L. S. Knopf, St. Louis	
“	Robert R. Knowles, St. Louis	
“	Edward H. Kowert, St. Louis	
“	Norton S. Kronemer, St. Louis	
“	John M. Laird, St. Louis	
“	Joseph J. Lauber, St. Louis	
“	Jerome L'Ecuyer, St. Louis	
“	Francis X. Lieb, St. Louis	
“	Alan M. Londe, St. Louis	
“	Herbert Lubowitz, St. Louis	
“	George A. Luther, St. Louis	
“	Otakar Machek, St. Louis	
“	George A. Mahe, St. Louis	
“	Antonio Q. Manansala, St. Louis	
“	Maria E. Manion, St. Louis	
“	Jose A. Marchosky, St. Louis	

Component Society	*Delegates*	*Alternates*
“	David S. Martin, St. Louis	
“	William H. McAlister, St. Louis	
“	R. Bruce McCloskey, St. Louis	
“	Ravi Mehra, St. Louis	
“	Paul N. Meiners, St. Louis	
“	George E. Mendelson, St. Louis	
“	Orlando G. Meneses, St. Louis	
“	Melvin E. Meyer, St. Louis	
“	Jerry N. Middleton, St. Louis	
“	Emil F. Miskovsky, St. Louis	
“	Tehmton S. Mistry, St. Louis	
“	Frank R. Mohs, St. Louis	
“	Arturo C. Montes, St. Louis	
“	Gerald W. Moritz, St. Louis	
“	Richard I. C. Muckerman, St. Louis	
“	Robert J. Mueller, St. Louis	
“	Wilbur A. Mullarky, St. Louis	
“	Frank J. Niesen, St. Louis	
“	David L. Ohlms, St. Louis	
“	Gary H. Omell, St. Louis	
“	Lawrence W. O'Neal, St. Louis	
“	Patricia O'Neal, St. Louis	
“	Frank Ostapowicz, St. Louis	
“	Leopoldo P. Pardo, St. Louis	
“	S. D. Parwatikar, St. Louis	
“	Meredith J. Payne, St. Louis	
“	Romeo J. Perez, St. Louis	
“	Paul J. Petruska, St. Louis	
“	Beaumanoir Prophete, St. Louis	
“	Richard T. Quick, St. Louis	
“	Robert Rainey, St. Louis	
“	Robert Ramsey, St. Louis	
“	James C. Redington, St. Louis	
“	David M. Reisler, St. Louis	
“	Rosendo A. Reyes, St. Louis	
“	Frank O. Richards, St. Louis	
“	Michael R. Richmond, St. Louis	
“	Edward M. Ring, St. Louis	
“	Hubert A. Ritter, St. Louis	
“	Philip L. Robbins, St. Louis	
“	John P. Roberts, St. Louis	
“	Jo-Ellyn M. Ryall, St. Louis	
“	Shabbir H. Safdar, St. Louis	
“	Mickey L. Salmon, St. Louis	
“	Antonio B. Santillano, St. Louis	
“	Lourdes Santos-Pardo, St. Louis	
“	Edwin H. Schmidt, St. Louis	
“	Charles R. Schranek, Sr., St. Louis	
“	W. P. Schuessler, St. Louis	
“	E. Robert Schultz, St. Louis	
“	Melvin M. Schwartz, St. Louis	
“	Luis Schwarz, St. Louis	
“	John S. Sciortino, St. Louis	
“	Donald G. Sessions, St. Louis	
“	Anwar Shah, St. Louis	
“	Bharat K. Shah, St. Louis	
“	Edward J. Shaw, St. Louis	
“	Robert A. Shively, St. Louis	
“	Herman Shyken, St. Louis	
“	Andrew J. Sigonrelli, St. Louis	
“	David L. Simon, St. Louis	
“	Gokul C. Singhal, St. Louis	
“	James C. Sisk, St. Louis	
“	Kenneth R. Smith, Jr., St. Louis	
“	Kevin B. Smith, St. Louis	
“	Walter R. Stafford, St. Louis	
“	James B. Stiehl, St. Louis	
“	James M. Stokes, St. Louis	
“	William Stoneman, St. Louis	
“	Robert W. Tatkow, St. Louis	
“	George E. Thoma,, St. Louis	
“	Donald L. Thurston, St. Louis	
“	Garland Tschudin, St. Louis	
“	Dolores R. Tucker, St. Louis	

Component Society	*Delegates*	*Alternates*
"	George L. Tucker, St. Louis	
"	Timothy T. Turner, St. Louis	
"	Frank J. Valach, St. Louis	
"	Ernest T. Velasco, St. Louis	
"	Benito I. Veluz, St. Louis	
"	Stephen J. Vitale, St. Louis	
"	Harvey Walker, Jr., St. Louis	
"	Harold E. Walters, St. Louis	
"	Bruce Walz, St. Louis	
"	Hugh R. Waters, St. Louis	
"	Thomas J. Weiler, St. Louis	
"	Miles C. Whitener, St. Louis	
"	James M. Whittico, St. Louis	
"	James R. Wiant, St. Louis	
"	David L. Wilkinson, St. Louis	
"	R. Jerome Williams, Sr., St. Louis	
"	Vallee L. Willman, St. Louis	
"	Tyrus D. Winter, St. Louis	
"	Ray J. Wolff, St. Louis	
"	Thomas K. Zink, St. Louis	
Saline		
SEMO	William Shell, Sikeston	
"	Ed Masters, Sikeston	
"	Donald Cento, Sikeston	
"	William D. Miller, Dexter	
South Central		
"		
"		
"		
"		
Tri-Lakes	Thomas L. Huffman, Branson	Roy J. Gillispie, Brnason
"	John E. Byrne, Branson	
Webster	R. J. Baries, Marshfield	
West Central	Robert L. Magee, Eldorado Springs	
"	M. Ted Moore, Nevada	Candice A. Moore, Nevada
"	R. H. Brownsberger, Appleton City	Wayne L. Morton, Osceola
"	Arthur L. Hansen, Butler	William W. Haynie, Butler
"	Mark Ediger, Harrisonville	William A. Turner, Nevada

Student Delegates

University of Mo.-Columbia
Delegates
Mr. Michael F. Boland
Ms. Anne Fitzsimmons
Alternates
Mr. Dennis Eneanya
Mr. Rick Vaughn

University of Mo.-Kansas City
Delegates
Ms. Ann Hellerstein
Mr. Michael Funderburk
Alternates

St. Louis University
Delegates
Mr. Hugh Hetherington
Mr. Chris Felton
Alternates
Mr. Mark Schickendantz
Mr. Conrad Time

Washington University
Delegates

Alternates

Past-Presidents — Delegates-at-Large

H. E. Petersen, St. Joseph
Paul R. Whitener, Chesterfield
Byron M. Stuart, Boonville
Hector W. Benoit, Jr., Kansas City
Doyle C. McCraw, Bolivar
Joseph L. Fisher, St. Joseph
Walter T. Gunn, St. Louis
E. A. Stricker, Rolla
James C. Cope, Rocheport

R. Allen Chandler, Kansas City
Max S. Franklin, St. Louis
Howard J. McAlhany, Springfield
John N. Martin, St. Joseph
Andrew McCanse, Kansas City
Richard V. Bradley, St. Louis
E. T. Hansbrough, Poplar Bluff
John I. Matthews, Jefferson City

Speaker and Vice-Speaker — Delegates-at-Large

Barbara Buchanan, Kansas City
Arlen D. Winsky, Springfield

BETHESDA EYE INSTITUTE

Department of Ophthalmology
St. Louis University School of Medicine

announces an

OCULOPLASTICS WORKSHOP
Sunday, April 15, 1984
Dissection Hall, Room M400 4th floor

COURSE DESCRIPTION: This course is designed to be a practical exposure to Oculoplastic Surgery. A combination of lecture, slide and videotape presentation will be interdigitated with a hands-on workshop. Preserved cadaveric material will be used to simulate the clinical situation. Each topic will be covered in depth and then followed immediately by a supervised practice session. Because of the tutorial hands-on nature of this course, enrollment will be strictly limited to 10.

COURSE DIRECTOR: Francis E. O'Donnell, Jr., M.D.

MAIN TOPICS

Brow ptosis repair, frontalis suspension, upper and lower lid blepharoplasty, levator resection-recession, senile entropion, senile and paralytic ectropion, nasolacrimal intubation, dacryocystorhinostomy, lateral cantholysis, tarsoconjuctival flaps.

6 CME HOURS

$250.00 Practicing Ophthalmologists, Otolaryngologists, and Plastic Surgeons. (Includes all sutures, all plastic materials, luncheon and syllabus.)

ADDITIONAL INFORMATION: Rosemary Fisher, Bethesda Eye Institute, 3655 Vista Ave., St. Louis, MO 63110. Tel: (314)772-9200, ext. 2390.

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

Apr. 12-14	Update in Obstetrics-Gynecology (Alameda Plaza Hotel)
May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
June 2	Symposium on Physical Fitness (Hyatt Regency Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Apr. 12-13	Care of the Aging Patient
Apr. 26-27	11th Annual Symposium on Obstetrics and Gynecology
May 3-5	WUMC Alumni Reunion
May 11-12	PNP Update 1984
May 21-25	Diagnostic Interview Schedule Training
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
***Contact:* Ronald G. Evens, M.D., Director**

Apr. 25	Leroy Sante Lecture (St. Louis University)
May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

Ellis Fischel State Cancer Center
115 Business Loop 70 West, Columbia 65201
(314) 875-2100, Ext. 398
***Contact:* Janis Gentile**

May 11-12	Cancer Update Symposium: Current Concepts of Chemotherapy

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
***Contact:* Felix E. F. Larocca, M.D.**

Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

Apr. 5-6	Current Practices in Surgery
Apr. 9-10	Pediatric Emergencies
Apr. 13	Pediatric Ophthalmology
Apr. 14	Annual Pathology Scientific Semianr
Apr. 15-18	American Association of Endocrine Surgeons Annual Meeting (Alameda Plaza Hotel, Kansas City)
Apr. 19-20	Ventilation/Perfusion and Gas Exchanges: A Physiologic Approach (Granada Royale Hometel, Kansas City)
Apr. 24-25	Tenth Annual Postgraduate Family Practice Symposium
Apr. 26-27	Advanced Trauma Life Support
Apr. 27	29th Annual Infectious Diseases Symposium
Apr. 27-29	34th Annual Postgraduate Symposium on Anesthesiology
May 7-8	Total Management of the Acute Myocardial Infarction
May 10-12	Musculoskeletal Tumor Society Meeting (Alameda Plaza Hotel, Kansas City)
May 14-15	Pediatric Emergencies
May 17-19	Extracapsular Cataract Extraction — Implantation of Intraocular Lenses
May 21-22	Early Breast Cancer
May 24-25	Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 7-8	Advanced Trauma Life Support
July 26-27	Advanced Trauma Life Support

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
Contact: Joy W. Barnett, CME Coordinator

Apr. 14	Spring Symposium — Breast Cancer

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: Weldon D. Webb, M.D., Director

Mar. 22-23	30th Annual Urology Seminar (Westin Crown Center, Kansas City)
Apr. 12-14	Improving Index of Cancer Chemotherapy (Westin Crown Center, Kansas City)
Apr. 17-18	Seventh Annual Primary Pediatrics for the Primary Physician
Apr. 27-28	Third Annual Clinical Conference on Arthritis
May 11-13	Seventh Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
Contact: Mrs. Judi Kramer, Coordinator

May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

St. Luke's Hospital of Kansas City
Wornall Rd. at 44th, Kansas City 64111
(816) 932-2220
Contact: The Center for Continuing Education

May 10-12	Fourth Annual Symposium on Advanced Heart Disease

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
Contact: Richard C. Barry, M.D.

June 13-15	Symposium: Identification and Practical Approach to Evaluation and Management of Pediatric Emergencies (Tan-Tar-A Resort, Lake of the Ozarks)

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000

May 10-11	Conference: Lasers in Medical Practice Breckenridge Inn (at Executive Park), Kansas City

Ellis Fischel State Cancer Center
CANCER UPDATE SYMPOSIUM
"Current Concepts of Chemotherapy"
May 11 and 12, 1984

This symposium is approved for continuing education credit hours for medical doctors (Category 1), osteopathic physicians and nurses.

Friday, May 11, 1984 —
Tiger Hotel, 23 South 8th, Columbia

6:00-7:00 PM	Registration and Reception
7:00-9:00 PM	Presentation of Papers (Invited papers from Residents and Fellows; award to be given for the best paper.)

Saturday, May 12, 1984 — Ellis Fischel State Cancer Center, Garth and Business Loop 70, Columbia

Morning Session — Keynote Addresses

8:00-8:40 AM	Registration and Exhibits
8:40-9:00 AM	Welcome — Ronald Vincent, M.D., Center Director Introduction — Oscar Guerra, D.D.S., Chief of Staff
9:00-9:40 AM	"Chemotherapy of Breast Cancer" Michael Freidman, M.D., National Cancer Institute
9:40-10:20 AM	"Treatment of Acute Non-lymphocytic Leukemia" Jerry P. Lewis, M.D., University of California-Davis
10:20-10:40 AM	Break and Exhibits
10:40-11:20 AM	"Chemotherapy of Testicular Cancer" Lawrence Einhorn, M.D., Indiana University-Indianapolis
11:20-12:00 NOON	"The Real Statistics in Cancer Treatment" Thomas Pajak, Ph.D., Radiation Therapy Oncology Group
12:00-1:00 PM	Lunch and Exhibits

Afternoon Session — Consists of two subsessions, with one-half hour presentations simultaneously from 1:00-4:30 PM

Subsession A	Seventh Floor Conference Room
Subsession B	First Floor Conference Room

Registration fees:

Physician/ Dentist	Friday only, $25; Saturday only, $75; Friday and Saturday, $80
RN/Other Professional	Friday only, $10; Saturday only, $25; Friday and Saturday, $30
Student	Friday only, $5; Saturday only, $5; Friday and Saturday, $10

For information and registration, please contact:

Janice Gentile
Ellis Fischel State Cancer Center
115 Business Loop 70, West
Columbia, Missouri 65201
(314) 875-2100, ext. 398

MSMA Members Receive Physician's Recognition Award

Fifty-eight Missouri State Medical Association members qualified for the MSMA-AMA Physician's Recognition Award during the period of January, 1984.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Herbert E. Arst, Kansas City
John L. Barnard Kansas City
Donald T. Behrens, St. Louis
Irene E. Bettinger, Kansas City
R. Don Blim, Kansas City
Richard V. Bradley, St. Louis
Robert F. Cerza, St. Joseph
Charles W. Chastain, Flat River
John W. Clarke, Lee's Summit
Jack Cokrhame, Florissant
James W. Coulter, Springfield
Charles H. Cozean, Cape Girardeau
Ananda DeSilva, Florissant
Joseph L. Denner, Kansas City
Antoni M. Diehl, Kansas City
Robert W. Doering, Kansas City
Robert M. Drisko, Kansas City
William M. Duff, Houston
Thomas F. Egan, St. Louis
H. Peter Ekern, Mexico
Edward L. Eyerman, St. Louis
Jon E. Gustafson, Lee's Summit
Edward H. Haith, Kansas City
Rodney C. Hartman, Sedalia
Kent A. Huston, Kansas City
Walton C. Ingham, Kansas City
James W. Kessel, St. Louis
Stanley W. Kim, St. Louis
William W. Kim, St. Louis
Jon T. Lum, St. Louis
Wayne E. Mason, Kansas City
Wallace McDonald, St. Joseph
John F. McDonnell, Kansas City
Burton M. Needles, Hazelwood
Jere O. Osborne, Kansas City
Mauro A. Paez, St. Louis
John E. Pawsat, Kansas City
Guy F. Perry, Springfield
Chintana S. Phipatanakul, Florissant
Larry W. Piebenga, Kansas City
Robert A. Raich, Kansas City
Earl L. Rapp, Hannibal
David J. Ray, West Plains
Gordon C. Sauer, Kansas City
Othello D. Smith, Kansas City
Robert R. Stuber, St. Joseph
Frank D. Sundstrom, Springfield
Lawrence B. Talbott, Kansas City
Harvey Thalblum, Kansas City
Emiliano C. Umali, Washington
William C. VanBuskirk, Kansas City
James W. Vaughn, Kansas City
Thomas P. Wescott, Holden
Joseph W. West, St. Louis
George P. Wilson, Columbia
John E. Wolfe, Springfield
Jin S. Yoon, Chillicothe
Matthew C. Ziemianski, Kansas City

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

The annual student-study tour, tentatively scheduled for August or September, will take place in the Federal Republic of Germany. The study tour, a month-long elective, is an educational innovation of the School to provide students with an on-site study experience away from Kansas City. Previous study tours have been in the British Isles, the Peoples Republic of China, Israel, Central Europe, Greece, Canada, the Navajo Nation, and Southwest and Northwest Missouri. Tentative study sites in Germany are Bonn, Dusseldorf, Mainz, Frankfurt, Heidelberg, Stuttgart, Munich, Berlin and Hamburg.

E. Grey Dimond, M.D., provost emeritus and distinguished professor of medicine, has been appointed Special Advisor to the Chinese Institute of Cardiology and the Chinese National Heart Hospital. In a formal ceremony last November in Beijing, PRC, Dr. Dimond addressed 200 physician-members of the Chinese Academy of Medical Science during their nationally televised proceedings. Dr. Dimond presented data on the experiences of a six-year medical curriculum.

On commenting about his new role for the all-China heart center, Dr. Dimond said, "China still has several years of work just to do the valvular and congenital heart disease surgery that is necessary. The concentration of congenital heart disease alone at this institute is remarkable. One entire 40-bed unit had only congenital heart patients under the age of seven, for example. This volume of complicated heart disease is rare today, so I look forward to sharing in the experience."

Dr. Dimond will return to China on June 14 leading a delegation of UMKC faculty members and friends representing The Edgar Snow Memorial Fund. *Henry A. Mitchell*, Ph.D., associate vice-chancellor for academic affairs of the University of Missouri-Kansas City, is co-leader of the delegation that will tour the country through July 7.

The Edgar Snow Memorial Fund Inc. was established in 1974 early in the development of the United States' present relationship with China. The Fund is a nonprofit, tax-exempt corporation dedicated to furthering friendship and understanding among the peoples of China and the United States. It conducts special symposia and conferences on U.S.-China relations, sponsors distinguished Chinese educators for one-semester visits to teach or to conduct research at the University of Missouri-Kansas City, and leads an invited group each year to China as a special delegation.

Robert J. Glaser, M.D., director of medical science for the Lucille P. Markey Charitable Trust of Menlo, California, will deliver the Third Annual Carl Migliazzo Memorial Lecture. Dr. Glaser was formerly the president and chief executive officer of the Henry J. Kaiser Family Foundation and is a former dean of Stanford University School of Medicine. Dr. Glaser will deliver the Migliazzo lecture during commencement activities at the School this spring.

The School of Medicine is now conducting a self-study and compiling a data base in anticipation of the November site visit of the Liaison Committee on Medical Education (LCME). The LCME, the joint-accrediting body of the Association of American Medical Colleges and the American Medical Association, last visited the School in 1979.

Fong Y. Tsai, M.D., professor of radiology and chairman of the Department of Radiology at Truman Medical Center, is the co-author of a new text, "Neuroradiology of Head Trauma"; University Park Press, Baltimore, 1984. Dr. Tsai formerly was staff neuroradiologist at Los Angeles County-University of Southern California Medical Center.

Eleven UMKC medical students are recipients of Hedgepeth Trust Scholarship Awards. They are *Anthony R. Anderson*, *Mark R. Barnes*, *Melvin J. Clark*, *Mary Ann Jackson*, *Warrett Kennard*, *Madeline T. Lemee*, *Joy A. McElroy*, *Olevia A. Mitchem*, *Debra A. Jamison*, *Michelle A. Perez* and *Daniel B. Williams*. *George Hedgepeth*, M.D., who served on Hospital Hill for 57 years, established the trust to assist minority students in medical or health-related professional schools.

Russell G. Jones, Jr., director of administration at the School since 1979, has resigned his post effective February 29 to accept a position as associate director of Truman Medical Center-West in Kansas City. In addition to his administrative duties, he also will serve as director of the Truman Medical Center Charitable Foundation.

Felix N. Sabates, M.D., clinical professor of medicine and chairman of the Department of Ophthalmology at Truman Medical Center, recently was named a 1983 recipient of the Honor Award of the American Academy of Ophthalmology. The Academy recognizes Honor Award recipients for their contributions to continuing education within the Academy based on a point system that includes presentation of scientific papers, exhibits, posters and instructional courses.

A recent report of UMKC medical school admissions officials indicates that the number and quality of applicants to the six-year program remain high.

WASHINGTON UNIVERSITY

The Washington University Memory and Aging Project is seeking volunteers for studies comparing healthy aging individuals with the more severe loss of memory or intelligence that affects some older persons. Subjects ages 65-85 who have progressive impairment of memory or other mental functions in the absence of other serious disease, such as strokes, heart failure, lung failure, or cancer are being enrolled. Persons in the same age range who still have good intellectual function and who are in good general health are also sought for comparison studies.

Progressive loss of intellectual function in persons over age 65 is a major problem in our society and most often is due to Alzheimer's disease, not strokes or "hardening of the arteries." Studies include only tests that carry no significant danger: detailed history, physical examination, blood samples, brain wave test (EEG), x-ray scan of the head (CT scan), question and answer tests (psychometric battery), and procedures to check abilities to do everyday activities.

Subjects will remain under the care of their personal physicians, who will be informed of study results after analyses are completed. Volunteers, their relatives or their physicians may contact the Memory and Aging Project office at Washington University School of Medicine, 660 S. Euclid, Box 8111, St. Louis, MO 63110. Phone numbers are (314) 362-2683 or (314) 362-2688.

Andrea Sant, a student at the School of Medicine received the 1983 Trainee Research Award from the Midwest American Federation for Clinical Research.

Ms. Sant, a predoctoral candidate in the Department of Microbiology and Immunology, was honored for research involving the immune system. Thirty-nine students competed for the $500 award that she received at the federation's recent annual meeting in Chicago.

Ms. Sant's studies have identified a previously undetected molecule on the surface of cells that participate in the immune response. Discovery of the molecule adds to the body of knowledge about the immune system, and suggests new approaches for investigating regulation of the body's immune function. Her abstract was titled "A Proteoglycan Component Is Part of the Human Ia Oligomeric Complex."

Ms. Sant received bachelor of science degrees in chemistry and biology from the State University of New York in 1977. She received the 1973 New York State Regents Scholarship and the 1977 American Chemical Society Annual Undergraduate Award in Analytical Chemistry. She served as a National Institutes of Health predoctoral trainee from 1978-1980 and was a teaching assistant at Washington University from 1979-1980.

Researchers at Washington University School of Medicine and 11 other centers recently released indisputable evidence that lowering cholesterol levels reduces the risk of heart disease in humans.

At press conferences in Washington, D.C. and other cities, researchers released results of the Coronary Primary Prevention Trial, a ten-year national study on the significance of cholesterol-lowering in the prevention of heart disease. The Lipid Research Center at Washington University School of Medicine was one of 12 centers participating in the study sponsored by the National Heart, Lung and Blood Institute of the National Institutes of Health (NIH). The work is reported in the January 20 issue of the *Journal of the American Medical Association*.

Nationally, 3,806 men aged 35 to 59 were monitored for seven to ten years, with half taking a placebo and half taking cholestyramine, a drug that lowers cholesterol levels. At the time they entered the study, participants had to have elevated cholesterol levels, normal blood pressure and no history of heart disease or diabetes. There were 327 men from the St. Louis area participating in the study.

Gustav Schonfeld, M.D., director of the Lipid Research Center and acting head of the Department of Preventive Medicine and Public Health at Washington University said, "This study provides the first proof that lowering blood cholesterol can lower the risk of heart attack in humans."

Researchers concluded that the higher the dose of cholestyramine, the better the results in reducing blood cholesterol levels and the incidence of heart disease. Participants who consistently took the maximum dose of cholestyramine lowered their risk of coronary disease by 49%. Dr. Schonfeld pointed out that results of the study can be extended to younger men as well as to women with high blood cholesterol.

The ten-year research project was protected from possible bias through use of the technique of a double-blind study, meaning that neither investigators nor participants knew who of the 3,806 men was receiving a placebo and who was receiving the effective medication. This spring, each St. Louis participant will have a final appointment at the Lipid Research Center. At that time, he will learn whether he received cholestyramine or a placebo and will receive all of the data, primarily cholesterol levels, that have been blinded over the years.

Screening for the trial in St. Louis began in 1973. The St. Louis trial was directed by *Ann Carol Goldberg*, M.D., an instructor in preventive medicine at the School of Medicine.

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. David E. Scott, professor and chair of the Department of Anatomy, organized the fifth Brain-Endocrine Interaction Symposium at the University of Wurzburg in West Germany. Dr. Willis K. Paull, professor of anatomy, joined him and 30 other plenary speakers who discussed the functional, structural and pathophysiological correlates of neuropeptide localization in the central and peripheral nervous systems.

Dr. Zuhdi Lababidi, professor of child health, presented a paper on his use of the balloon valvuloplasty and great vessel angioplasty procedure with more than 100 patients to the American Academy of Pediatrics in San Francisco. Several of his papers on this subject have been accepted for publication in the *American Heart Journal* and the *American Journal of Cardiology*.

Dr. Michael Crouch, assistant professor of family and community medicine, participated on a panel on preparing for academic medicine and another on how to choose a family practice program at the American Academy of Family Physicians' national meeting of residents and students held in Kansas City.

Dr. John W. Yarbro, professor of hematology and medical oncology, is president-elect of the national Association of Community Cancer Centers.

Dr. Paul Passamonte, assistant professor of pulmonary and environmental medicine in the Department of Medicine, presented a paper at the 49th annual scientific assembly of the American College of Chest Physicians in Chicago. The paper, "Effect of Inhaled Atropine or Metaproterenol in Patients with Chronic Airway Obstruction and Therapeutic Serum Theophylline Levels," was co-written by *Dr. Alfonso Martinez*, a former postdoctoral fellow in the division of pulmonary and environmental medicine.

Dr. Karl D. Nolph, professor and director of the Nephrology Division in the Department of Medicine, was the co-chairman for the fourth congress of the International Society for Artificial Organs in Kyoto, Japan. He also was co-chairman for the Continuous Ambulatory Peritoneal Dialysis Current and Future Directions Meeting in Murnau, West Germany.

Dr. David M. Klachko, professor of endocrinology and metabolism in the Department of Medicine, directed a conference on "Modern Management of Diabetes Mellitus" at the Lake of the Ozarks.

Dr. Richard A. Finkelstein, professor and chairman of the Department of Microbiology, was chosen to be the Harden lecturer at the 20th Harden Conference on "Molecular Basis of Virulence in Bacteria" at Wye College in Kent, England. He spoke about his work on cholera and related diarrheal disease.

Dr. Finkelstein and *Dr. Charlotte Parker*, associate professor of microbiology; *Dr. Carmen Sciortino*, assistant professor of microbiology; and students *Katie Richardson*, *Abdul M. Hamood*, *Alan Taylor* and *Mary Nahlik* presented papers at the 19th U.S.-Japan Joint Cholera Conference in Bethesda, Md.

Dr. David P. Roeltgen has joined the Department of Neurology as assistant professor after working at Hershey Medical Center in Hershey, Pa. He earned the M.D. degree from Tufts University School of Medicine in Boston in 1976. Dr. Roeltgen directs the department's new Behavioral Neurology Clinic, which is part of the Neurology Outpatient Clinic.

Dr. Richard I. Wertheimer also has joined the

Department of Neurology as assistant professor after completing a neurology fellowship at West Virginia University Medical Center in Morgantown, W. Va. He earned his M.D. degree in 1978 from the Free University of Brussels, Brussels, Belgium. Dr. Wertheimer directs the department's new neuromuscular studies program and will offer electromyography as well as nerve conduction study procedures on both an inpatient and outpatient consultation basis in the Clinical Neurophysiology Laboratory.

Conducting the Neurology Department's new Clinical Neuropsychology Consultation/Assessment Laboratory is *Dr. David M. Tucker*, who joined the faculty after earning his Ph.D. degree in clinical neuropsychology from the University of Georgia in Athens.

Participating from the Department of Ophthalmology in the annual meeting of the American Academy of Ophthalmology were *Dr. Robert Burns*, professor and department chairman; *Dr. Carl Ide*, professor; and *Dr. Roy Wilson*, instructor. Dr. Burns served as course instructor for "Problem Cases in External Disease" and Dr. Ide participated in a press panel and interview on young diabetics and eye disease. Dr. Ide and Dr. Wilson presented a paper, "Evidence for an Association Between Long-Term Glycemic Control and Development of Diabetic Retinopathy."

Dr. Allen W. Jones, professor, has been appointed chairman of the Department of Physiology following the retirement of *Dr. James O. Davis*. Dr. Jones has been at UMC since 1972. He is studying hypertensive mechanisms and vascular ion exchange, and supersensitivity of arterial alpha-receptors in hypertension.

Dr. Gabrielle A. Carlson, associate professor of psychiatry, is co-editor and chapter author of a book, *Affective Disorders in Childhood and Adolescence — An Update*, published by Spectrum Publications in New York.

In Memoriam

Albert A. Tassi, Jr., M.D., 601 Indian Hills, St. Charles 63301; graduate of St. Louis University, 1961; member of St. Charles-Lincoln County Medical Society; aged 47; died Dec. 13, 1983.

George A. Carroll, M.D., 6248 A Nottingham Ave., St. Louis 63109; graduate of St. Louis University, 1925; member of St. Louis Metropolitan Medical Society; aged 83; died Jan. 12, 1984.

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and the

MSMA Reception
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MRS. RICHARD BOWLES
Incoming President of the MSMA Auxiliary
and
JAMES M. STOKES, M.D.
Incoming President of the MSMA
on Thursday, March 29, 1984, 5:30-6:30 PM
Pavilion Ballroom Salons A-C, Marriott's Pavilion Hotel, St. Louis

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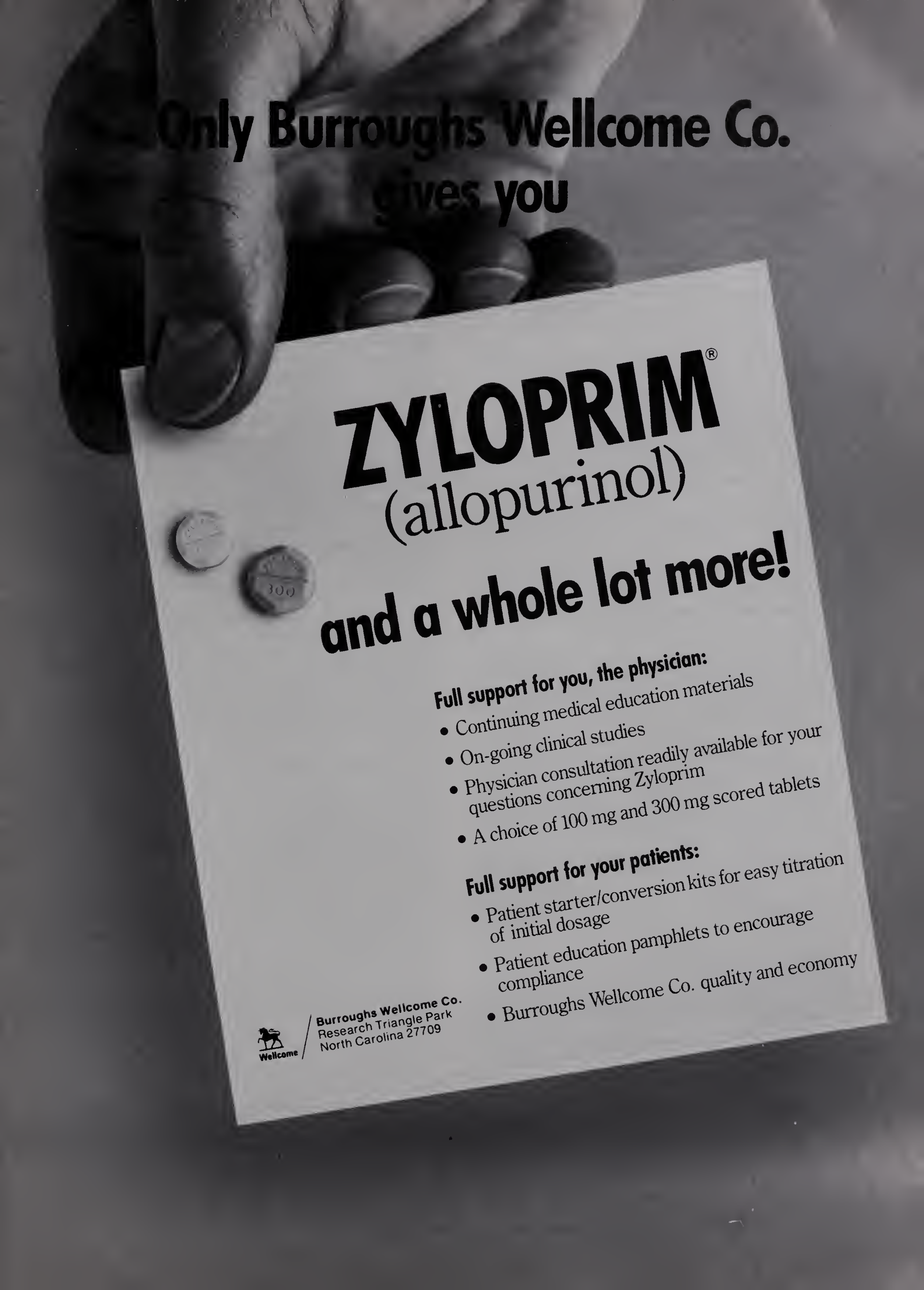

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Introducing Our New MSMA Members

Sunil M. Apte, M.D., 800 E. 5th, Suite 305, Washington 63090, has become a member of Franklin-Gasconade-Warren Medical Society. Dr. Apte is a native of Kolhapur, India, received his preliminary education at the University of Bombay and his M.D. degree at the University of Bombay in 1975. He specializes in urology.

Adel S. Bassel, M.D., 633 E. Arrow, Marshall 65340, has become a member of Saline County Medical Society. Dr. Bassel is a native of Egypt, received his preliminary education at Ain Shams University Faculty of Science and his M.D. degree at Ain Shams University Faculty of Medicine in 1962. He specializes in general practice.

Phillip M. Beyer, D.O., 209 W. Main, Fredericktown 63645, has become a member of Mineral Area County Medical Society. Dr. Beyer is a native of Iowa, received his preliminary education at the University of Iowa and his D.O. degree at the University of Iowa in 1969. He specializes in family practice.

Daniel K. Bixler, M.D., 911 E. 75th, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Bixler is a native of Kansas City, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1983. He specializes in pediatrics.

William N. Brodine, M.D., Suite T509, 6420 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Brodine is a native of Rochester, N.Y., received his preliminary education at Lehigh University and his M.D. degree at the University of Rochester in 1976. He specializes in internal medicine and cardiology.

John B. Chamberlin, M.D., 3813 N. Cherry Lane #202, Kansas City 64116, has become a member of Jackson County Medical Society. Dr. Chamberlin is a native of Monmouth, Ill., received his preliminary education at Drake University and his M.D. degree at the University of Illinois in 1983. He specializes in internal medicine.

Robert M. Clemens, M.D., 2404 Cedar La., Sedalia 65301, has become a member of Pettis County Medical Society. Dr. Clemens is a native of Kansas City, received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in anesthesiology.

Howard M. Cloogman, M.D., Suite 340, 2928 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Cloogman is a native of Miami, Fla., received his preliminary education at the University of Miami and his M.D. degree at the University of Miami in 1976. He specializes in radiology.

Charles F. Cockerell, M.D., 11200 Winner Rd., Independence 64057, has become a member of Jackson County Medical Society. Dr. Cockerell is a native of Kansas City, received his preliminary education at Drake University and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in pediatrics.

James S. Denninghoff, M.D., #1 Hospital Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Denninghoff is a native of St. Louis, received his preliminary education at Trinity University and his M.D. degree at the University of Missouri-Columbia in 1981. He specializes in otolaryngology.

Randall E. Doner, M.D., 2084 Independence Center, Independence 64057, has become a member of Jackson County Medical Society. Dr. Doner is a native of Tucson, Ariz., received his preliminary education at the University of Arizona and his M.D. degree at the University of Arizona in 1979. He specializes in family practice.

John J. Dooner, M.D., 2811 Pembroke, St. Joseph 64506, has become a member of Buchanan County Medical Society. Dr. Dooner is a native of New York, N.Y., received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Kansas in 1979. He specializes in anesthesiology.

Prem N. Dua, M.D., Farmington State Hospital, Farmington 63640, has become a member of Mineral Area Medical Society. Dr. Dua is a native of Chopal, India, received his preliminary education at Punjab University and his M.D. degree at Punjab University in 1961. He specializes in pediatrics.

John C. Gehrke, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Gehrke is a native of Columbia, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1983. He specializes in emergency medicine.

Phillip S. Gifford, M.D., 4110 Forest Ave., Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Gifford is a native of Lebanon, (Mo.), received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1983. He specializes in internal medicine.

Dennis G. Greer, M.D., 102 N. Ravine, Fulton 65251, has become a member of Callaway County Medical Society. Dr. Greer is a native of Kansas City, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1978. He specializes in family practice.

Gary J. Grix, M.D., Medical Arts Clinic, Farmington 63640, has become a member of Mineral Area County Medical Society. Dr. Grix is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at St. Louis University in 1977. He specializes in internal medicine.

Anthony Guiterrez, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Guiterrez is a native of Sterling, Kan., received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1983. He specializes in internal medicine.

Eric D. Hamburg, M.D., 301 W. Liberty, Farmington 63640, has become a member of Mineral Area Medical Society. Dr. Hamburg is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1977. He specializes in internal medicine.

Walter T. Hargett, M.D., 905 Main, Concordia 64020, has become a member of Lafayette-Ray County Medical Society. Dr. Hargett is a native of St. Louis, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1980. He specializes in family medicine.

Ralph E. Harold, M.D., 803 Swope Dr., Independence 64056, has become a member of Jackson County Medical Society. Dr. Harold is a native of Independence, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1983. He specializes in internal medicine.

Robert L. Hoffman, M.D., #4 Lake Dr., Bonne Terre 63628, has become a member of Mineral Area County Medical Society. Dr. Hoffman is a native of St. Louis, received his preliminary education at Logan College and his M.D. degree at Universidad Del Noreste of Medicine in 1980. He specializes in general practice.

Patricia E. Hogan, D.O., 305 E. Lacy, Marshall 65340, has become a member of Saline County Medical Society. Dr. Hogan is a native of Kansas City, received her preliminary education at the University of Missouri-Kansas City and her D.O. degree at Kansas City College of Osteopathic Medicine in 1982. She specializes in general practice.

James A. Isaac, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Isaac is a native of Kansas City, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1983. He specializes in internal medicine.

John P. Koonce, M.D., Sale Hospital, Inc., 113 W. Hickory St., Neosho 64850, has become a member of Ozarks County Medical Society. Dr. Koonce is a native of Illinois, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in urology.

John H. Krickbaum, M.D., Methodist Medical Center, 7th to 9th on Faraon, St. Joseph 64501, has become a member of Buchanan County Medical Society. Dr. Krickbaum is a native of Scottsbluff, Neb., received his preliminary education at Hastings College and his M.D. degree at the University of Nebraska in 1961. He specializes in general practice in emergency medicine.

Rodney D. Lentz, D.O., 2601 Kendallwood Parkway, Suite 102, Gladstone 64119, has become a member of Clay-Platte County Medical Society. Dr. Lentz is a native of Kansas City, received his preliminary education at Northeast

Missouri State University at Kirksville and his D.O. degree at Kirksville College of Osteopathic Medicine in 1974. He specializes in obstetrics and gynecology.

Mary E. McGinnis, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. McGinnis is a native of Washington, D.C., received her preliminary education at Rockhurst College and her M.D. degree at St. Louis University in 1983. She specializes in internal medicine.

Brian M. Osgood, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Osgood is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1983. He specializes in internal medicine.

Charles B. Porter, M.D., Suite 40 II, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Porter is a native of Kansas City, received his preliminary education at Southern Methodist University and his M.D. degree at the University of Kansas in 1977. He specializes in internal medicine.

Gary L. Postelwait, D.O., 213 Country Lane, Lee's Summit 64063, has become a member of Jackson County Medical Society. Dr. Postelwait is a native of Tulsa, Okla., received his preliminary education at Oklahoma State University and his D.O. degree at Oklahoma College of Osteopathic Medicine in 1982. He specializes in internal medicine.

Kathryn R. Roedel, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Roedel is a native of Charleston, received her preliminary education at St. Louis University and her M.D. degree at the University of Missouri-Kansas City in 1983. She specializes in internal medicine.

Gregory A. Schnell, M.D., 9768 Locust, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Schnell is a native of Windfield, Kan., received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1983. He specializes in internal medicine.

Gary W. Sides, D.O., Box 566 W. Main and Collins, Festus 63028, has become a member of Jefferson County Medical Society. Dr. Sides is a native of Jacksonville, Fla., received his preliminary education at the Universiy of Missouri-Columbia and his D.O. degree at the University of Health Sciences-Kansas City in 1980. He specializes in family practice.

Janett A. Vale, D.O., Consortium of Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Vale is a native of Kansas City, received her preliminary education at the University of Kansas and her M.D. degree at the University of Health Sciences-Kansas City in 1982. She specializes in internal medicine.

Erik S. Vetne, M.D., 1513 Union, Moberly 65270, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Vetne is a native of Stockholm, Sweden, received his preliminary education at Andrews University and his M.D. degree at Autonomans University in 1979. He specializes in pediatrics.

New Student Members

University of Missouri-Columbia

E. Thomas Cullom, III
Michelle M. Ferrari
Linda A. Harrison
Helen M. Munsell
Brett A. Prywitch

University of Missouri-Kansas City

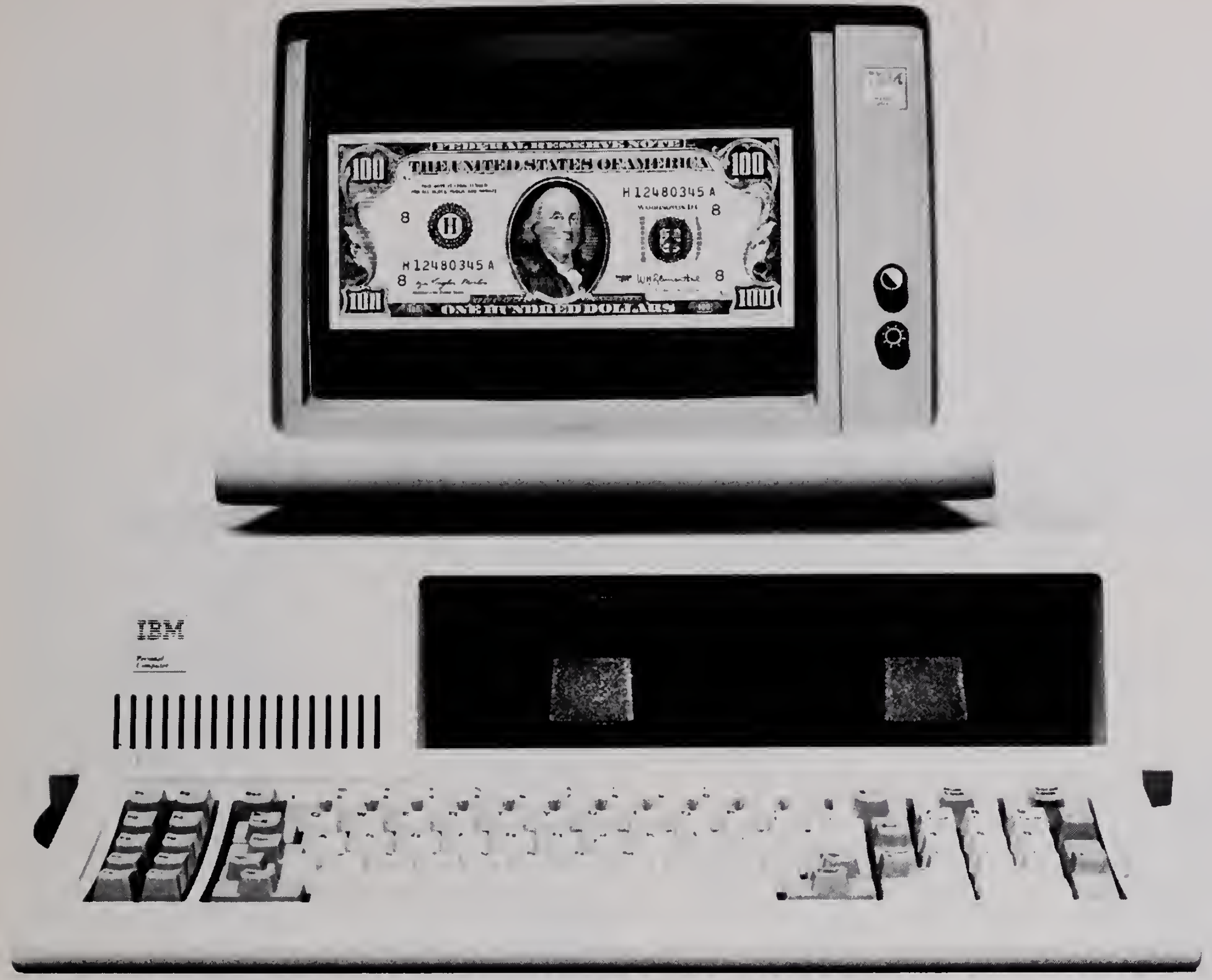
John W. Esther
Kevin M. Mulhern
Andrew Zimmerman

St. Louis University

Nesher G. Asner
Samuel J. Essma
William N. Hartenbach
Craig S. Heligman
Richard L. Kiefer
Michael J. Palchak
Stacie L. Ranniger
Joseph Schmoker

Washington University

Bob Huppenbauer
Stephen K. Sullivan



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FINANCIAL STATEMENT FOR THE YEAR 1983

LENNERTSON & COMPANY
Certified Public Accountants
ST. LOUIS, MISSOURI 63144

January 31, 1984

Missouri State Medical Association
113 Madison
Jefferson City, MO 65101

Gentlemen:

An examination has been made of the balance sheet of Missouri State Medical Association, a non-profit Missouri corporation, as of December 31, 1983 and attached are the related statements of income and reserves and changes in financial position for the year then ended. Our examination was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of Missouri State Medical Association at December 31, 1983, and the results of its operations and the changes in its financial position for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson and Company

Exhibit A

Missouri State Medical Association
Balance Sheet, December 31, 1983

Assets

Current Assets		
Cash in Banks and On Hand	$ 9,872	
Certificates of Deposit	574,000	
Accounts Receivable — Advertisers	6,389	
Accounts Receivable — Others	1	
Income Tax Deposits	7,251	
Total Current Assets		$ 597,513
Investments (Exhibit C-2)		
Certificate of Deposit	$321,000	
Bonds and Notes at Cost	5,000	
Corporation Stocks at Cost	191,425	
Equity Investments:		
M.S.M.I. — 100% owned	49,307	
Momedico — 10.8% owned	498,337	
Total Investments		1,065,069
Dues Receivable — Exhibit D (See Reverse-Contra)		7,532
Fixed Assets (At Cost)		
Land	26,000	
Building	137,810	
Furniture and Equipment	182,560	
Total	$346,370	
Less Reserve for Depreciation	115,692	230,678
Advance for Travel		1,270
		$1,902,062

Liabilities

Current Liabilities		
Accounts Payable	$ 15,674	
Note Payable Momedico-due in one year	90,443	
Due Missouri State Medical Foundation	25	
Due American Medical Association	710	
Due County Medical Societies	120	
Total Current Liabilities		$ 106,972
Deferred Credit to Income (Advance Dues)		347,391
Reserve for Uncollected Dues (See Receivables)		7,532
Note Payable — MOMEDICO		90,448
Subordinated Debenture Notes		624,706
Reserve for Future Activities — Balance 1/1/83	$674,906	
Gain on Sale of Securities	17,216	
Reinvestment of Permanent Investment Income	53,243	
Federal and State Income Taxes 1983	(3,265)	
Federal Income Taxes Prior Years	(2,206)	
Excess of Expense Over Income — Exhibit B	(14,881)	725,013
		$1,902,062

(See accompanying notes to financial statements.)

Exhibit B

Missouri State Medical Association
Income Statement for the Year 1983

Particulars	*General Activities*	*Journal Publication*	*Total*
Dues Received (including $3.00 per member annually for the Journal)	$582,189	$ 16,264	$598,453
Rentals — Annual Session Exhibit Space	13,800		13,800
Annual Session Contributions	600		600
Subscriptions to the Journal — Nonmembers		3,005	3,005
Advertising Space — The Journal		47,098	47,098
Investments — Interests and Dividends	102,226		102,226
Collection Fees on A.M.A. Dues	9,330		9,330
Reimbursed Fees for Services	34,124		34,124
Equity Income — Subsidiaries —			
M.S.M.I. — 100% owned	79,843		79,843
Momedico — 10.8% owned	(13,329)		(13,329)
Total Income	$808,783	$ 66,367	$875,150
Expenses			
Salaries	$261,620	$ 31,924	$293,544
The Journal — Paper, Printing, Etc.		104,399	104,399
Commission on Journal Advertising		4,737	4,737
Commissions and Meeting Expenses	140,954		140,954
AMA/GTE Telenet System	6,453		6,453
PRO — Professional Review	20,258		10,258
Computer expenses	16,201		16,201
Consultation Fee	6,480		6,480
Custodian Fees — Investments	682		682
Depreciation	22,030	1,903	23,933
Dues and Subscriptions	2,334		2,334
Employees' Pension Plan Contributions	33,505	3,012	36,517
Equipment Rentals and Repairs	3,145	410	3,555
Insurance — General	2,780		2,780
Insurance — Blue Cross	12,992	2,491	15,483
Interest Expense	26,761		26,761
MMPAC — Administrative Expenses	6,578		6,578
MO Health Data Corp. Grant	20,000		20,000
Occupancy Expense	11,366	1,544	12,910
Postage	19,630		19,630
Professional Fees	17,187	1,000	18,187
Public Relations Program	7,067		7,067
Reinvested Fixed Income	53,229		53,229
Stationery, Printing and Office Supplies	13,089		13,089
Student Awards	400		400
Taxes — Payroll	19,063	2,607	21,670
Taxes — Real Estate	564		564
Telephone and Telegraph	13,931	1,833	15,764
Traveling Expenses — Executive Secretary and Assistants	5,872		5,872
Total Expenses	$734,171	$155,860	$890,031
Excess of Expenses Over Income	$ 74,612	$(89,493)	$(14,881)

(See accompanying notes to financial statements.)

Exhibit C-1

Missouri State Medical Association
Statement of Commissions and Meeting Expenses
for the Year 1983

Annual Session	$ 40,057
Council	31,031
Delegates to A.M.A.	36,751
Public Affairs	16,794
Women's Auxiliary	7,150

(Continued on next page)

Commissions:		
Commission on Medical Economics, Third Party Medicine and Governmental Relations	$ 179	
Commission on Continuing Education and Health Manpower	4,419	
Committee on Interspecialty Medicine	143	
Committee on Impaired Physicians	309	
Committee on Medical Public Affairs	65	
Committee on Socio-Economics	1,140	
Discretionary Council Fund	1,706	
Action Committee to Negotiate with 3rd Party	1,210	9,171
Total		$140,954

Exhibit C-2

Statement of Investments December 31, 1983

Description		
Central Trust C.D. 10.00% due 12/84		$ 321,000
Pacific Gas and Electric 4½% due 6/1/90		5,000
Arch Fund Inc. — Class B	$51,065	
200 shares Aetna Life & Casualty	7,530	
100 shares Alcan Aluminum LTD	3,703	
100 shares Anheuser Busch Companies, Inc.	6,753	
200 shares Atlantic Richfield Company	8,531	
330 shares Baker International	2,970	
200 shares Caterpillar Tractor Company	9,255	
300 shares Combustion Engineering	11,747	
100 shares Cross and Trecker Corporation	2,525	
100 shares Gilbert & Associates	4,151	
200 shares Hospital Corporation of America	9,205	
400 shares Illinois Power Company	9,160	
100 shares International Business Machines	10,703	
500 shares Lucky Stores	10,763	
300 shares McGraw Edison	9,196	
100 shares Monsanto Company	9,015	
200 shares J. C. Penny Company, Inc.	11,830	
300 shares Sante Fe Industries	7,245	
100 shares Smithline Beckman	6,078	191,425
Total Cost (Market Value $518,515)		$517,425
Equity Investments		
M.S.M.I., Inc. 100% owned		49,307
Missouri Medical Insurance Company — 10.8% owned		498,337
Total		$1,065,069

(See accompanying notes to financial statements.)

Exhibit D-1

Missouri State Medical Association
Dues Receivable and Membership by Societies
December 31, 1983

MEMBERSHIP

Societies	*Students*	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
10 Andrew			3	1	4	
14 Audrain		1	27	1	29	
18 Barton			4	2	6	
26 Boone		22	260	20	302	$1,086.25
30 Buchanan			107	20	127	270.00
34 Butler-Wayne Ripley-Carter			70	4	74	270.00
38 Callaway			12	5	17	405.00
42 Cape Girardeau			107	5	112	337.50
46 Chariton-Macon-Monroe-Randolph			18	9	27	
50 Clay			129	5	134	405.00
54 Clinton			3	1	4	
58 Cole			73	8	81	135.00
62 Cooper			6	1	7	
66 Dallas-Hickory-Polk-Dade			8	3	11	
70 Dunklin			20		20	135.00
74 Franklin-Gasconade-Warren		1	42	4	47	405.00
78 Grand River			30	5	35	270.00
82 Greene			322	28	350	33.75
86 Henry			6	2	8	
94 Howard			5	2	7	
98 Jackson		64	993	203	1260	67.50
102 Jasper			109	14	123	67.50
106 Jefferson			27	2	29	135.00
110 Johnson			13	3	16	135.00
115 Laclede			8		8	135.00
118 Lafayette-Ray			24	3	27	
120 Lake of the Ozarks			21	2	23	540.00
130 Marion-Ralls-Shelby			38	2	40	
135 Mid-Missouri			42	4	46	270.00
138 Mineral Area			32	7	39	270.00
142 Moniteau			2	1	3	
146 Montgomery			1		1	
158 Northwest			19	4	23	
162 North Central			2	1	3	
166 Ozarks			30	10	40	135.00
170 Pemiscot			8	1	9	
174 Perry-St. Genevieve			17	3	20	
178 Pettis			31	2	33	135.00
186 Pike			6		6	
189 St. Charles-Lincoln			80	4	84	405.00
190 St. Louis Metropolitan		140	2042	284	2466	135.00
198 Saline			10	3	13	
202 Semo			41	2	43	270.00
206 South Central			34		34	675.00
208 Tri Lakes			10	2	12	
210 Webster			3		3	135.00
214 West Central			30	8	38	270.00
216 St. Louis University	136				136	
218 University of Missouri-Columbia	234				234	
220 University of Missouri-Kansas City	176				176	
222 Washington University	41				41	
Totals	587	228	4925	691	6431	$7,532.50 (A)

(Continued in next column)

(A) Delinquent dues of members at December 31, 1983 carried at the request of local Societies. Other delinquent members were dropped from membership in accordance with the by-laws.

Exhibit E

Missouri State Medical Association
Statement of Source and Application of Funds
for the Year 1983

Funds Applied		
Increases in Investments	$20,509	
Purchase of Fixed Assets	84,757	
Increase in Travel Advances	441	
Payments on Bank Loan	44,075	
Payments on Momedico Loan	90,443	
Payments on Debenture Notes	3,000	
Federal and State Income Taxes	5,471	
Total Funds Applied		$248,696
Funds Acquired		
Depreciation (non cash)	$23,933	
Excess of Expenses over Income for year	14,881	
Funds Provided from Operations	$ 9,052	
Increase in Deferred Credit to Income	10,658	
Gain on Sale of Securities	17,216	
Reinvestment of Permanent Investment Income	53,243	
Total Funds Acquired		90,169
Balance-Decrease in Working Capital		$158,527
Accounted for as follows:		
Decrease in Cash and Certificates of Deposit		$148,276
Decrease in Accounts Receivable		8,041
Increase in Current Liabilities		9,461
		$165,778
Less: Increase in Tax Deposit		7,251
Balance-Decrease in Working Capital		$158,527

(Continued on next page)

Missouri State Medical Association
Notes to Financial Statements
December 31, 1983

1. *Investments*. Permanent investments with a cost of $517,425 were confirmed by statements from the trust companies. Equity investment in Missouri Medical Insurance Company was obtained from unaudited financial statements prepared by the company's employees. M.S.M.I. equity investment was obtained from audited statements.

2. *Building, Equipment and Depreciation*. The building occupied by the Association with a cost of $137,810 will be depreciated over a useful life of 30 years and the furniture and equipment in the amount of $182,685 has an average 6-year useful life. Depreciation is computed on a straight line basis.

3. *Dues and Assessments*. Membership dues and assessments received in advance are carried as deferred credit to income and will be picked up as income in the next year. Dues and assessments in effect for each member during the year 1983 are as follows:

	Active	*Junior*
Journal	$ 3.00	$ 3.00
Association General Fund	122.00	7.00
Foundation Assessment	10.00	
M.S.M.A. Dues and Assessments	$135.00	$10.00
American Medical Association	315.00	45.00
Totals	$450.00	$55.00

4. *Subordinated Notes*. The notes are issued without interest or maturity date and interest or repayment is at the discretion of the council of the Missouri State Medical Association, and the restrictions contained in the subordinated notes.

5. *Income Taxes*. The Internal Revenue Service requires that the Association pay taxes on its unrelated business income. For the year ended December 31, 1983, the Association had net income of $11,350 on their unrelated business income, resulting in a tax of $3,265.

FINANCIAL STATEMENT

MISSOURI STATE MEDICAL FOUNDATION DECEMBER 31, 1983

LENNERTSON & COMPANY
Certified Public Accountants
ST. LOUIS, MISSOURI 63144

January 31, 1984

Missouri State Medical Foundation
113 Madison
Jefferson City, MO 65101

Gentlemen,

We have examined the balance sheet of Missouri State Medical Foundation as of December 31, 1983, and the related statements of support, revenue and expenses and changes in fund balances for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned statements present fairly the assets and liabilities of Missouri State Medical Foundation at December 31, 1983, arising from cash transactions, and the revenues collected and expenditures made by it during the year then ended, on a basis consistent with that of the preceding year.

Yours very truly,
Lennertson and Company

Missouri State Medical Foundation
Balance Sheet (Cash Basis) December 31, 1983

Assets		
Curent Assets		
Checking Account —		
Central Trust Bank	$ 39,393	
Money Market Account —		
Central Trust Bank	185,693	
Total Current Assets		$ 225,086
Loans Receivable — Medical Students	$1,076,645	
Less Reserve for Losses	30,781	1,045,864
		$1,270,950
Fund Reserve		
Balance January 1, 1983		$1,161,877
Additions for the Year 1983		
Interest on Student Loans	$ 44,037	
Interest on Bank Deposits	24,256	
Contributions (detail below)	10,262	
Assessments of Members, Active $10	47,508	126,063
		$1,287,940
Less Expenses for the Year 1983		
Administrative Services	$ 7,500	
Professional Fees	2,300	
Printing, Meetings and Miscellaneous	1,434	
Provision for Losses on Student Loans	5,756	16,990
		$1,270,950

(Continued in next column)

Contributions	
Women's Auxiliary	$ 8,716
Tribute	395
Physicians	250
Others	901
	$ 10,262

Missouri State Medical Foundation
Notes to Financial Statements
December 31, 1983

1. *Income*. Accrued interest on outstanding loans at December 31, 1983 amounted to $49,193.24 and is not included in the loan balance in Exhibit A.

2. *Student Loans*. Summary of Loans Receivable

Loans Receivable January 1, 1983	$ 953,082
Loans made during the year	220,000
	$1,173,082
Less Loan Written Off (Bankruptcy)	3,750
Less Loan Repayments	92,687
Loans Receivable December 31, 1983	$1,076,645

3. *Reserve for Losses*. This reserve is carried to offset uncollectable loans and to charge off student loan balances in the event of death.

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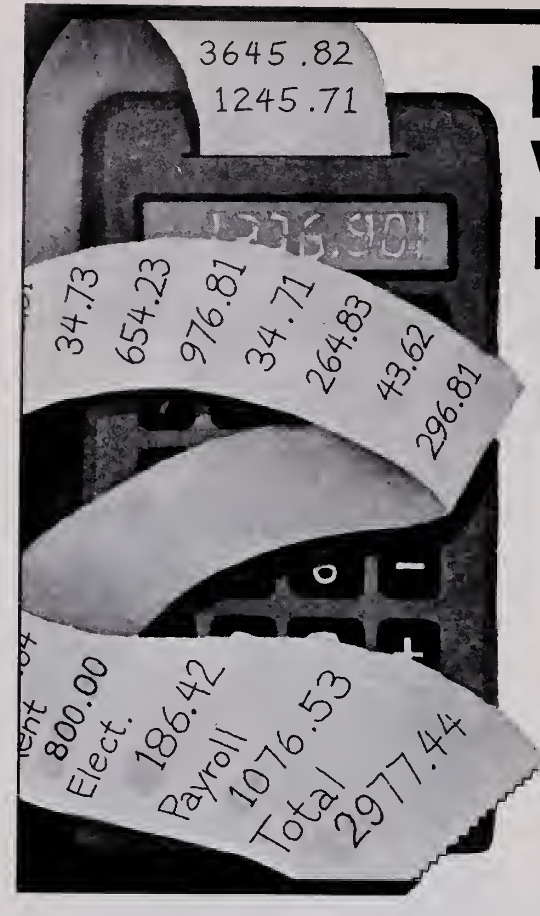

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BENEFIT AUCTION — Time to be thinking about your donation for the annual MSMF/AMA-ERF Benefit Auction to be held at the 1984 MSMA and Auxiliary Conventions in St. Louis. Benefit Auction V last year produced $10,000 for these two important student and medical school assistance funds. This year's goal is higher. You'll enjoy attending this special convention event at 6:30 PM on Thursday, March 29. It's fun!

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in Brief

A summary of AMA, medical & health news

American Medical Association / 535 North Dearborn Street / Chicago, Illinois 60610 / Phone (312) 527-1500 / TWX 910-221-0300

THE AMA BOARD of Trustees will be expanded to include a resident member and a non-voting medical student member, following action by the House of Delegates at the 1983 Interim Meeting. Candidates for the resident position will be endorsed and nominated by the Resident Physicians Section, with election by the House of Delegates. The medical student member will be appointed annually by the Board of Trustees from nominees submitted by the Medical Student Section. A resident member who later is elected to the Board as an active member will have a maximum term of 11 years combined service.

FEDERATION NETWORK, an electronic telecommunications service, has been launched by the AMA. Eleven state associations, six national specialty societies, and 13 county societies are participating in the pilot phase of FED/NET. The service, which is part of the AMA/GTE Medical Information Network, will permit the AMA and medical societies to send and receive legislative and regulatory alerts, urgent news releases, and other messages through their MINET computer terminals. Societies will be able to communicate directly with each other as well as will the AMA. All components of the Federation will be encouraged to join FED/NET.

FORTUNE 500 COMPANIES were informed of AMA programs designed to encourage cost effective quality medical care. In a letter to chief executive officers of 135 of the nation's largest corporations, the AMA described the Health Policy Agenda for the American People, the health care coalition program, and the Cost Effectiveness Evaluation Network's Economic Grand Rounds program. Each CEO also received a copy of the AMA's *Cost Effectiveness Plan: 1983 and Beyond*. The AMA said it would periodically share the results of the programs with the corporations. Keeping the business community informed of the AMA's cost-containment efforts is part of the Association's Corporate Visitation Program.

THE AMA SYSTEM of nomenclature, *Current Procedural Terminology*, has been adopted for reimbursement purposes by the Federal Health Care Financing Administration and has become the most widely accepted nomenclature for reporting physician procedures and services in health insurance programs. The 1984 edition of CPT contains a number of new features for identifying and coding medical procedures. *CPT 1984* is available for $25 per copy — less 10% discount for AMA members — plus shipping, handling, and taxes where applicable. It is also available in computer tape form. To order, write AMA Order Department, OP 341, AMA, P.O. Box 10946, Chicago, Ill. 60610.

A NEW AMA publication, titled *Socioeconomic Characteristics of Medical Practice*, provides detailed tabulations of trends in fees, income, and expenses. The book includes reprints of *SMS Report*, the newsletter of the AMA's Socioeconomic Monitoring System. The 156-page volume also contains a comprehensive summary of information on practice characteristics in 1982 based on SMS surveys conducted in 1983. The book may be purchased from the AMA Order Department, OP 165, P.O. Box 10946, Chicago, Ill. 60610. The cost is $10.80 for members and $12 for nonmembers, plus $3.50 shipping and handling charges.

THE AMA HOUSE of Delegates has granted official observer status at its meetings to the American Medical Women's Association. In the past, the AMA has granted the non-voting seat to the American Dental Association, American Group Practice Association, American Hospital Association, American Osteopathic Association, and National Medical Association.

PHYSICIANS UNDER 40 years of age made up 41.8% of the physician population in 1981, according to figures available from the AMA Physician Masterfile. The number of physicians under 40 increased from 167,193 (40.8% of the total physician population) in 1976 to 202,839 (41.8%) in 1981. During the same period, the percentage of under-40 office-based physicians increased 10.8% while the percentage of hospital-based physicians under 40 dropped slightly to 75.6%, the AMA Division of Survey and Data Resources reported.

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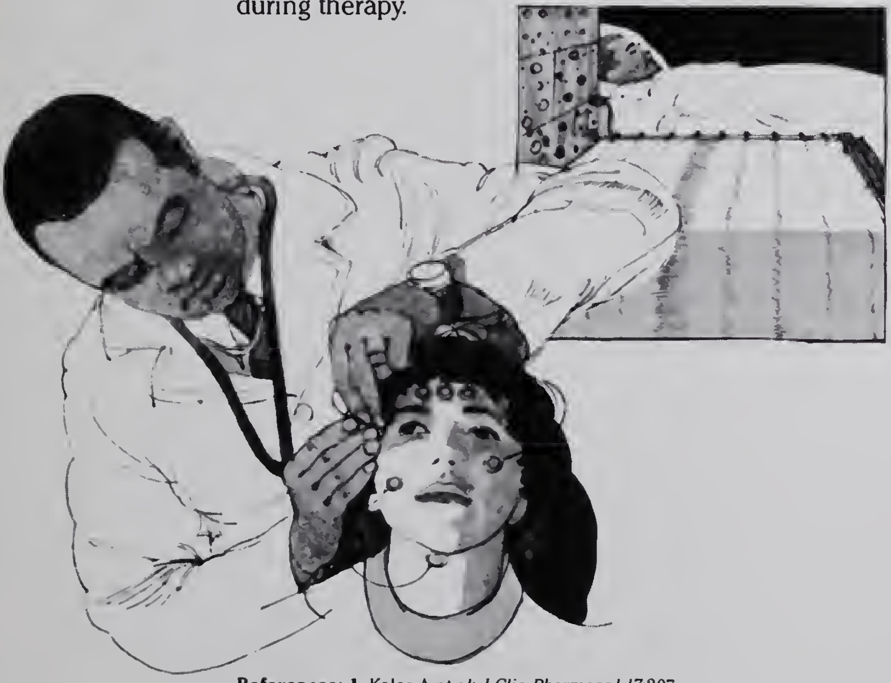

References: **1.** Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **4.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **5.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Kales JD: *Pharmacol Physicians 4*:1-6, Sep 1970. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*:25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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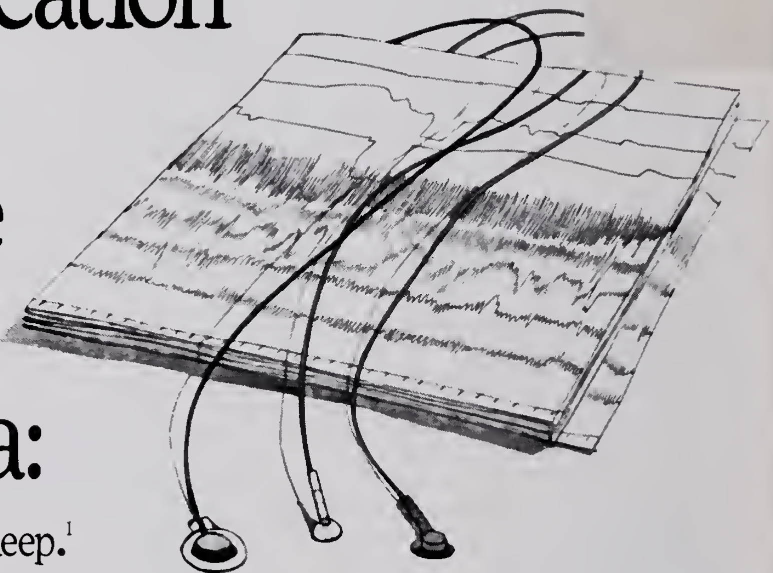

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Missouri Medicine

Vol. 81, No. 4 (ISSN 0026-6620) April, 1984

Special Review

Intracranial Hemorrhage Diagnosis by CAT Scan

Feasibility Considerations of Nuclear Magnetic Resonance Scanners

Photo-Comment

●

Editor's Corner

First-Year Results of a New Coronary Bypass Program

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Special Article

Facts and A Story

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PROGRESS NOTES
missouri state medical association
APRIL 1984

More Support Needed for MMPAC/AMPAC

by John N. Martin, M.D.

Every two years, nearly 500 candidates will be elected to Congress. Thousands more will be elected to State Legislatures. Each elected official will help determine government policy on the practice of medicine. Many issues will be broad in scope; others will be directed toward increased government regulation and control of individual physicians and the way they provide care to their patients.

This is why we as physicians, through our county societies and political action committees, must be prepared to support candidates who understand and respect the critical role of the individual physician in meeting the health needs of the community.

Today, only a small portion of our MSMA members belong to MMPAC (Missouri Medical Political Action Committee) and AMPAC (American Medical Political Action Committee). To be stronger, more effective we must first be larger, more involved. We must be informed on candidates and issues, be prepared to raise funds, and actively participate in the campaigns we support.

Doctor, isn't it time you join the effort to keep medicine free from undue federal and state regulation? And isn't it time you made a commitment to join the fight for the best possible health care delivery system in Missouri?

Write today and join. MMPAC/AMPAC, P.O. Box 1402, Jefferson City, MO 65101. Regular one year membership is $40. Sustaining membership is $100 annually.

Annual Convention

Dr. Stokes Installed As 1984-85 MSMA President

James M. Stokes, M.D., a St. Louis area general surgeon, was installed as the new president of the Missouri State Medical Association at its Annual Convention March 28-April 1 at the St. Louis Marriott Pavilion Hotel.

Active in organized medicine for nearly 30 years, Dr. Stokes has served on numerous committees of the St. Louis Metropolitan Medical Society. He served as treasurer in 1974; president-elect in 1975; and president in 1976.

He has served the Missouri State Medical Association as a delegate for many years; as treasurer from 1979-1981; vice chairman of the Council from 1981-1982; and chairman of the Council from 1982-1983. He has also served on the MOMEDICO Board of Directors since its founding in 1978 and currently serves as Secretary-Treasurer and Chief Accounting Officer.

Dr. Stokes completed his pre-medical studies at Central Methodist College in Fayette, Missouri and later entered the Washington University School of Medicine, graduating in 1948.

He served his internship at St. Louis City Hospital and Washington University Service and completed his residency in 1954 at St. Louis City and Barnes hospitals.

After his residency, Dr. Stokes served the U.S. Army at Fort Hood, Texas, for two years. While there, he became a Diplomate of the American Board of Surgery in 1955.

Following his service, Dr. Stokes joined the full-time faculty at Washington University School of Medicine as Associate Professor of Surgery and served in that capacity until 1962, at which time he entered the private practice of general and vascular surgery. Today, Dr. Stokes continues to serve Washington University School of Medicine as Associate Professor of Surgery.

Joint Effort Underway

New Brochure To Outline Breast Cancer Treatments

The Missouri State Medical Association and the American Cancer Society have joined forces to develop a new brochure summarizing the advantages and disadvantages of alternative methods of treatment for breast cancer.

The MSMA is forming a committee of physicians representing concerned and related specialties which will be developing the language for the brochure. Once the committee has agreed to the language, a panel from the American Cancer Society will review and approve the brochure's content before printing.

Both organizations are committed to producing this brochure as quickly as possible and making it available in quantity to Missouri physicians, hospitals and patients at no cost.

There has been initiative in some states to adopt legislation ensuring informed consent regarding breast cancer. The Missouri State Medical Association and the American Cancer Society feel certain this joint voluntary effort will negate the need for such legislation in Missouri.

MSMA Members Named to State Board

Governor Christopher ("Kit") Bond has named Richard E. Moore, M.D., and Clarence C. Reynolds, M.D., as members of the State Board of Registration for the Healing Arts.

Dr. Moore, Cape Girardeau, will serve a term ending Sept. 3, 1987. He replaces Wilber Spalding, M.D., whose term expired. Dr. Moore is in practice with the Cape Anesthesia Group, Inc. Before locating in Cape Girardeau, he was on staff at the University of Missouri-Columbia Medical Center. Dr. Moore received his medical degree from the University of Missouri-Columbia. He is a member of the Missouri State Medical Association, the American Medical Association, the American Society of Anesthesiologists and the American Association of Respiratory Therapists.

Clarence C. Reynolds, M.D., Kansas City, will serve a term ending Sept. 3, 1985. He replaces George H. Ladyman, M.D., who resigned. Dr. Reynolds is an internist in private practice. He received his medical degree from Meharry Medical College in Nashville, Tenn., and completed his internship at the Homer G. Phillips Hospital in St. Louis. Dr. Reynolds is a member of the Missouri State Medical Association and the American Medical Association.

Info Needed on Rabies Treatments

The Missouri Division of Health needs information regarding individuals receiving post-exposure rabies prophylactic treatment. Please report the names and addresses of persons receiving this treatment and the treating physician's name to F. T. Salalowich, Director, Bureau of Veterinary Public Health, 1511 Christy Lane, Jefferson City, MO 65101.

Survey Results

Competition or Recession? Effects on Medical Practice

There has been considerable debate about how (or whether) economic forces affect the health care sector. In particular, two questions often asked are:

- Has competition in medicine become significant enough to affect key economic indicators of a physician's practice?
- Did the 1981-82 recession — the most pronounced economic decline since the Great Depression — ever reach the physician?

Recent data on medical practice indicators from the AMA's Socioeconomic Monitoring System (SMS) offer some preliminary, if somewhat ambiguous, answers to these questions. For example, physicians reported that both average total patient visits per week and average patient care hours per week declined in the second half of 1983, compared to the second half of 1982.

However, the patterns are not uniform. The trend for average total visits per week parallels, with some lag, the recent economic experience of the United States economy. Changes in average patient care hours per week follow a pattern better explained by increased competition (assuming no dramatic changes in the health status of the population). If competition is the prevailing force, both the number of patient visits and the number of patient care hours per week should continue to decline. If, instead, general economic conditions are the more important determinant, both these key medical practice indicators should turn up in 1984.

Total patient visits per week for all physicians fell an average of 6.2 percent from the last six months of 1982 to the last six months of 1983. Office visits declined at a faster rate than hospital rounds in the second half of 1983. One plausible explanation for this pattern is that most hospital visits are covered by third party payors, whereas not as many individuals have insurance coverage for office visits. Thus, office visits may be more affected by economic conditions (both competition and recession) than hospital rounds.

Both the number of hours providing patient care in the office and hours spent on hospital rounds declined in the second half of 1983. General and family practice physicians spent the most hours (32.5) in patient care in the office, while medical specialists provided the most hours per week on hospital rounds (13.3). It is interesting to note that the specialty of general and family practice, which has had a lower growth rate of new physicians compared to other specialties, was the only specialty to report an increase in hours of all patient care activities. This finding provides some evidence for the differential effects of competition in medicine.

Fees paid to all physicians for office visits and for follow-up hospital visits increased approximately 10 percent from the last half of 1982 to the last half of 1983. The smallest percent increase in fees for general and family practitioners and for surgical specialists were for office visits by new patients. It is unclear at this point whether competition among these physicians for new patients or the effects of the recession is the primary motivation in holding down initial office visit fees.

Average quarterly net income of all physicians was 3.0 percent lower in the six month period ending September, 1983 than the corresponding six month period in 1982. This decline was the first reduction in average quarterly net income recorded by SMS since the program began in late 1981.The decline occurred in all major specialty groups, although those in surgical specialties reported only a minimal decline. Since this was the first decline in quarterly income detected by SMS, caution must be exercised in interpreting its significance. In particular, information from future quarterly SMS surveys is necessary to identify whether this reduction is the beginning of a trend or merely a transitory phenomenon. Future surveys will also provide more conclusive information as to whether competition or the effect of the recession has been the more significant influence on the socioeconomics of physicians' practices.

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If you still believe in me, save me.

For nearly a hundred years, the Statue of Liberty has been America's most powerful symbol of freedom and hope. Today the corrosive action of almost a century of weather and salt air has eaten away at the iron framework; etched holes in the copper exterior.

On Ellis Island, where the ancestors of nearly half of all Americans first stepped onto American soil, the Immigration Center is now a hollow ruin.

Inspiring plans have been developed to restore the Statue and to create on Ellis Island a permanent museum celebrating the ethnic diversity of this country of immigrants. But unless restoration is begun now, these two landmarks in our nation's heritage could be closed at the very time America is celebrating their hundredth anniversaries. The 230 million dollars needed to carry out the work is needed now.

All of the money must come from private donations; the federal government is not raising the funds. This is consistent with the Statue's origins. The French people paid for its creation themselves. And America's businesses spearheaded the public contributions that were needed for its construction and for the pedestal.

The torch of liberty is everyone's to cherish. Could we hold up our heads as Americans if we allowed the time to come when she can no longer hold up hers?

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You are invited to learn more about the advantages of corporate sponsorship during the nationwide promotions surrounding the restoration project. Write on your letterhead to: The Statue of Liberty-Ellis Island Foundation, Inc., 101 Park Ave, N.Y., N.Y. 10178.

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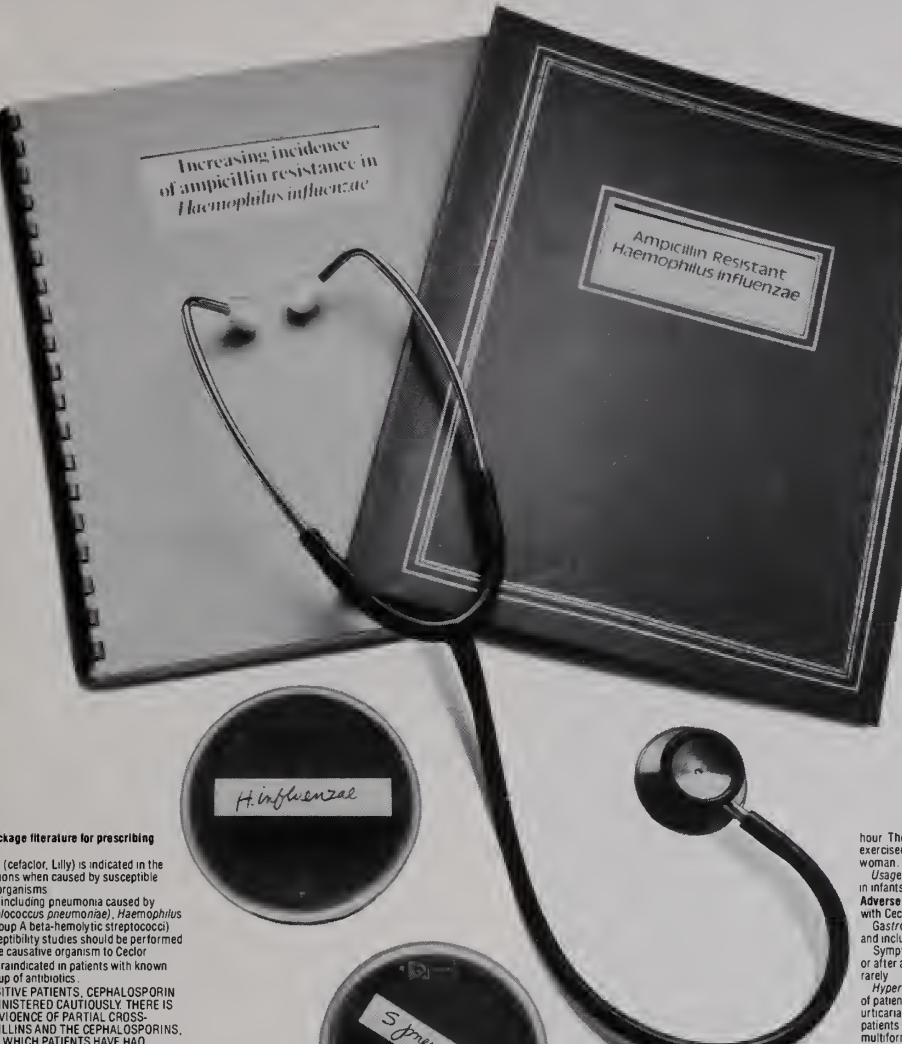
BP-SPEC
1983

An added complication... in the treatment of bacterial bronchitis*


Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile* Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0.18, 0.20, 0 21, and 0.16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known. Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S pneumoniae* or *H. influenzae*.[8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Please Notice!

Names of all the new officers, AMA delegates and councilors who were elected during the MSMA Annual Convention on March 29-April 1 in St. Louis will appear on this page in the May issue of MISSOURI MEDICINE.

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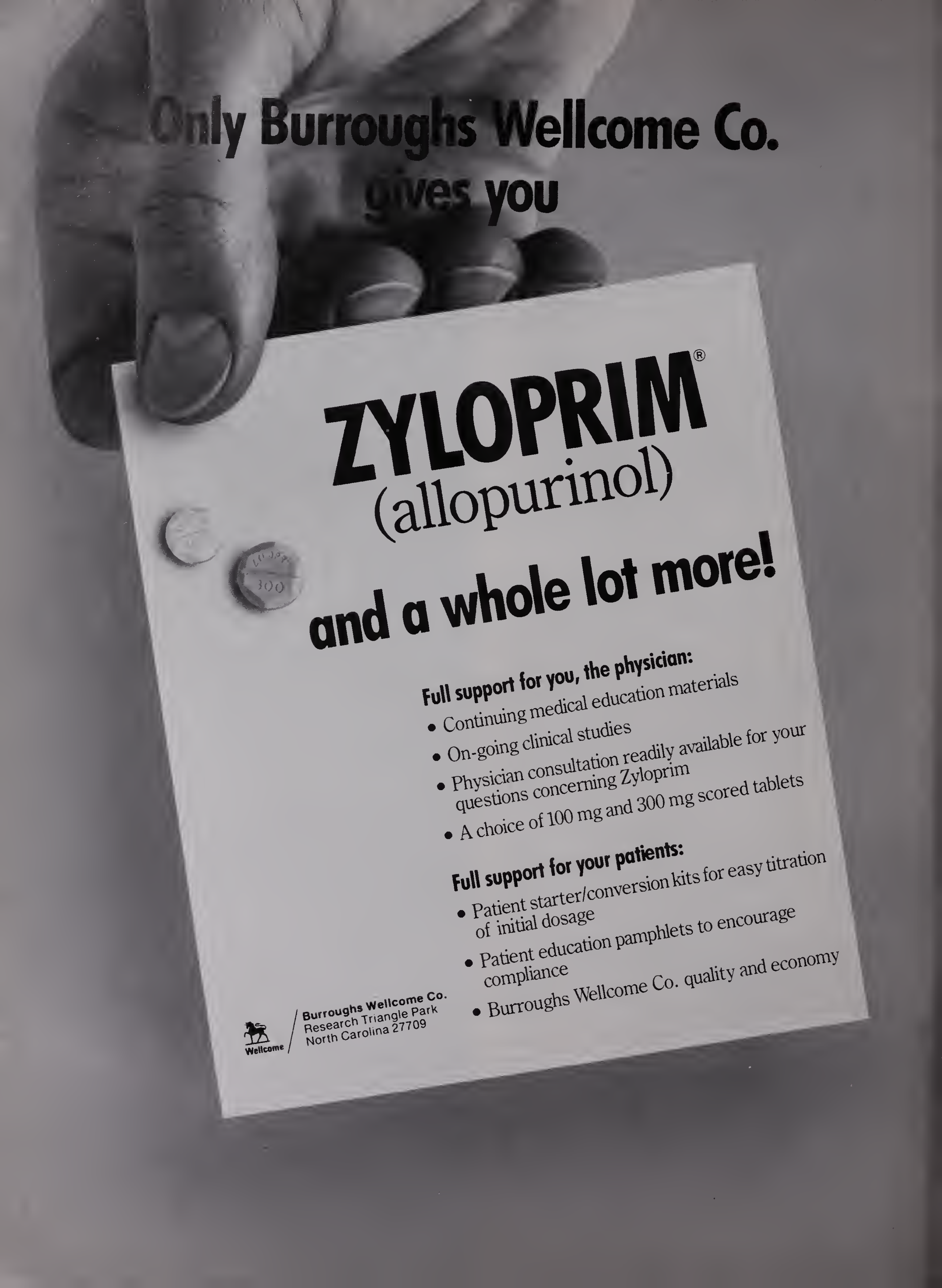

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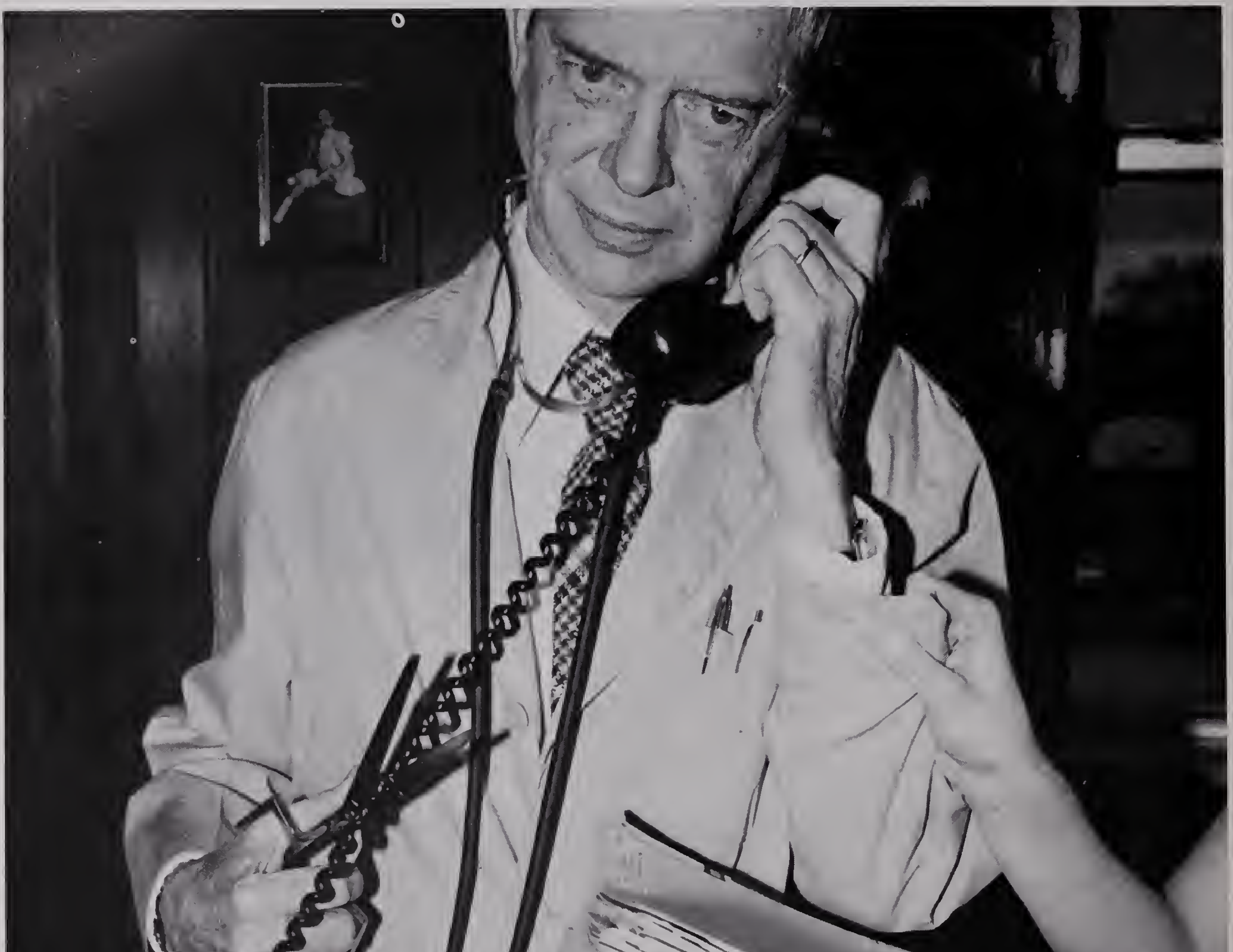

"I'm sorry, Mrs. Drivvel, we seem to be getting a bad connection."

Editor's Corner

EDITORIAL

The human body has changed its form slowly over the millenniums, but one metamorphosis of a sort has occurred during the last century. This development has altered human intercommunication for all time to come. While it used to be essential for people to come together to interrelate, this is no longer entirely necessary. Now it is possible for persons to communicate vocally by what is, in a way, an extension of the body — the telephone. This electric gadget that Alexander Graham Bell pioneered and that his successors at AT&T perfected is part of the speech mechanism for most of us; 95% of the citizens of the United States own telephones. There are 12 major cities in this country that have more phones than citizens. We no longer give any special thought to using the telephone — it may as well be controlled by our autonomic nervous system, so automatic is our use of it. Physicians develop a love-hate relationship with all electric communication equipment early on. As medical students, we envied the house officers who were often paged and who were seen making important phone calls undoubtedly involving life or death situations. It is only when we become part of the medical system, with responsibilities including being reached by telephone, that we learn to occasionally loathe it.

One British doctor recently referred to the aggravation of having the phone ringing when he wished it wouldn't as PTT — *Paranoid Telephone Tinnitus*. Thanks to this instrument, the patient who may be miles away can be close at hand in communicating by voice to discuss a problem. The doctor does often feel uncomfortable in this situation — only one of his "senses" may be used to evaluate the patient. There is no sight, no feel and no smell and, therefore, no utilizing these other senses to make a medical decision. One plus for this somewhat impersonal tête-à-tête, however, is that such an invisible communication situation seems to lower the caller's inhibitions, and he will often vent his emotions more freely. This fact probably helps explain why nationally only one of seven psychiatrists lists his home telephone number.

Just as the telephone is an extension of the patient to us, so it is in reverse as we communicate with our medical customers. We can ask them to come to the office, not to come to the office, pay their bills, stop their medicines, or whatever. The telephone book 50 years ago did list physician's office numbers, but rarely then was an "if no answer call . . ." number included. Now phone listings of home numbers, alternate numbers, answering service numbers, and partners' numbers put our ears in constant voice reach of our patients. If any of them has a doubt as to which doctor to call, bold face type, special listings, and even red ink in the yellow pages all lend friendly persuasion — a type of approach we hesitate to use when we meet the public face to face.

All in all, the telephone is a boon to health care. It is security and relief from boredom for older people. It represents instant communication with the physician anytime for the public. It's almost embarrassing for a doctor to be seen out in public without a paging device showing prominently in his front pocket. It's our constant contact with our patients. Sometimes, though, we wish Bell had invented something else.

JORDAN W. BURKEY, M.D.
Springfield

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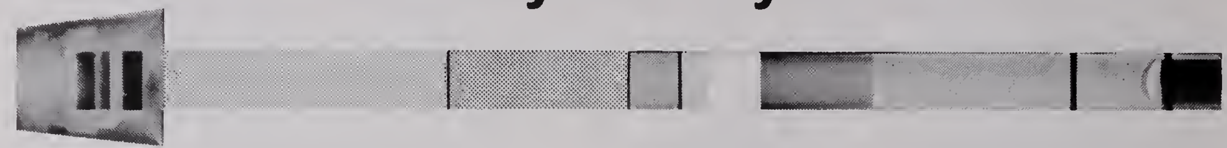

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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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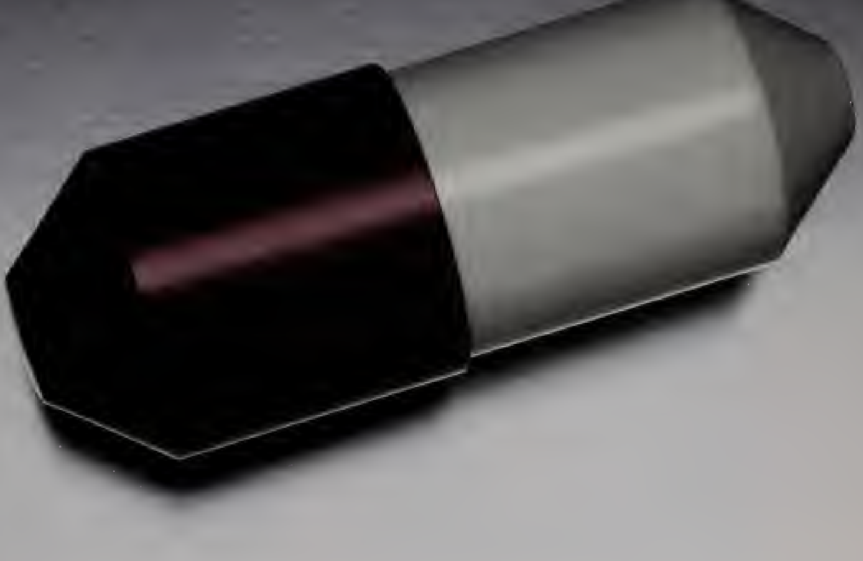

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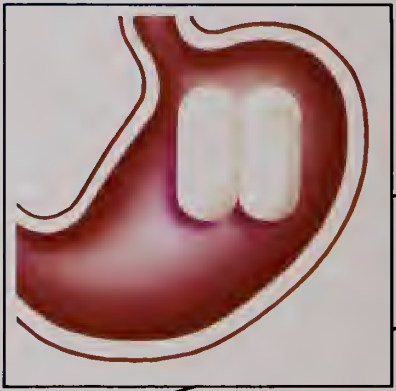

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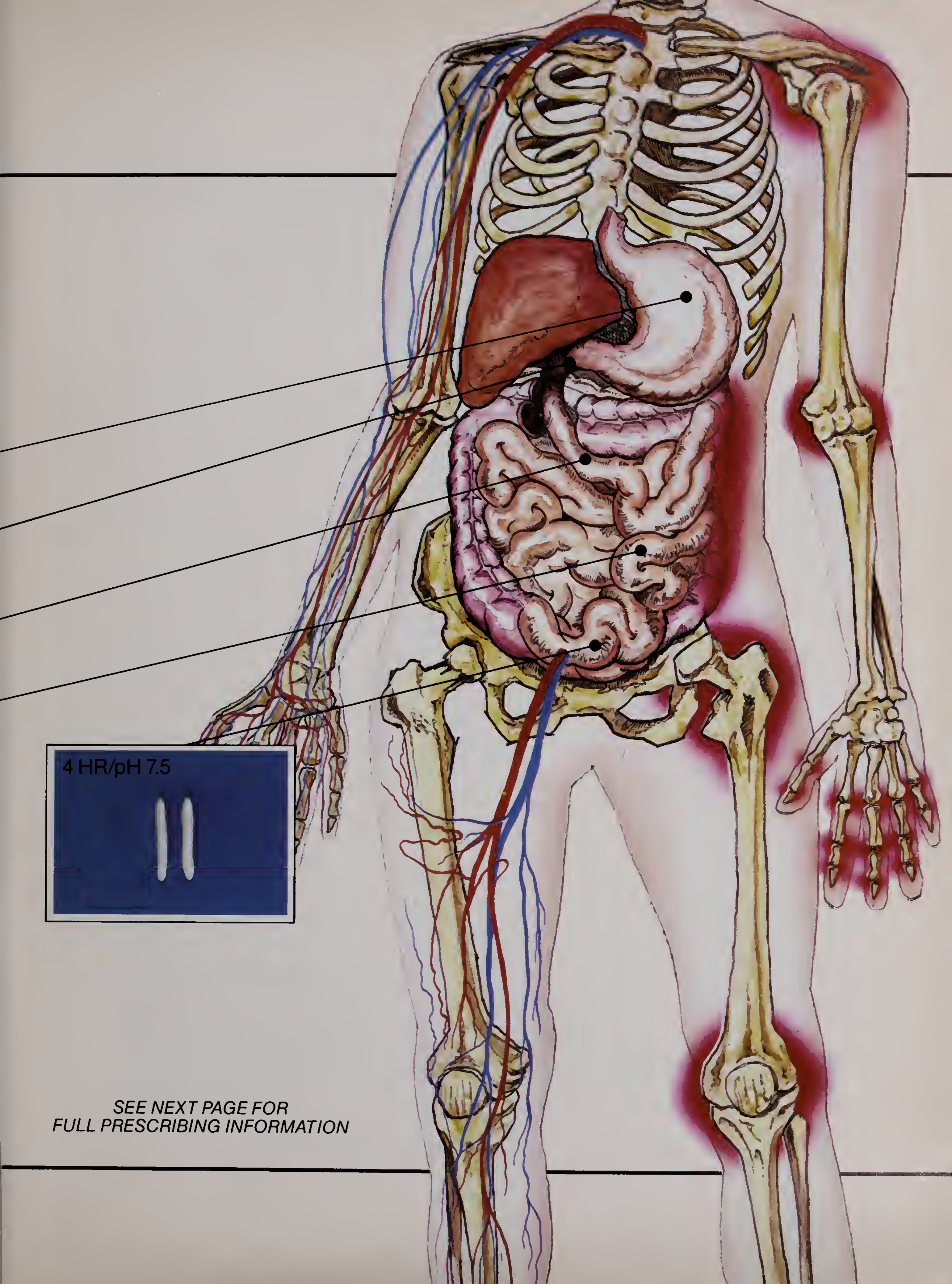
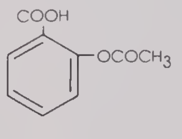


SEE NEXT PAGE FOR
FULL PRESCRIBING INFORMATION

ZORprin (ASPIRIN) Zero-Order Release

DESCRIPTION: Each capsule-shaped tablet of Zorprin contains 800 mg of aspirin, formulated in a special matrix to control the release of aspirin after ingestion. The controlled availability of aspirin provided by Zorprin approximates zero-order release; the *in vitro* release of aspirin from the tablet matrix is linear and independent of the concentration of the drug. ☐ **CLINICAL PHARMACOLOGY:** Aspirin, as contained in Zorprin, is a salicylate that has demonstrated anti-inflammatory and analgesic activity. Its mode of action as an anti-inflammatory and analgesic agent may be due to the inhibition of synthesis of prostaglandins, although its exact mode of action is not known. ☐ Zorprin dissolution is pH-dependent. *In vitro* studies have shown very little aspirin to be released in acidic solutions; whereas, Zorprin releases the majority of its aspirin (90%) in a zero-order mode at a neutral to alkaline pH. It is this pH dependence of Zorprin that reduces direct contact between aspirin and the gastric mucosa, resulting in a reduction of its gastrointestinal side-effect potential. ☐ Bioavailability data for Zorprin have confirmed that plasma levels of salicylic acid and acetylsalicylic acid can be measured 24 hours after a single oral dose. This substantiates a twice daily dose regimen. Multiple dose bioavailability studies showed similar steady-state salicylate levels for Zorprin as for conventional release aspirin using the same total daily dose. Long-term monitoring of salicylate levels showed no signs of accumulation once steady-state levels were reached (4-6 days). ☐ Studies of *in vivo* prostaglandin levels (PGE2) have shown Zorprin plasma levels of salicylic acid and acetylsalicylic acid to reduce PGE2 levels 14 hours after a single oral 800 mg dose while an equivalent dose of aspirin produced a reduction of PGE2 levels only through six hours. Zorprin's effect on prostaglandins other than PGE2 has not been determined. ☐ Salicylates are excreted mainly by the kidney, and from studies in humans it appears that salicylate is excreted in the urine as free salicylic acid (10%); salicyluric acid (75%) salicylic phenolic (10%); acyl glucuronides (5%) and gentisic acid (<1%). ☐ **INDICATIONS & USAGE:** Zorprin is indicated for the treatment of rheumatoid arthritis and osteoarthritis. The safety and efficacy of Zorprin have not been established in those rheumatoid arthritic patients who are designated by the American Rheumatism Association as Functional Class IV (incapacitated, largely or wholly bedridden, or confined to wheelchair, little or no self-care). ☐ In patients treated with Zorprin for rheumatoid arthritis and osteoarthritis, the anti-inflammatory action of Zorprin has been shown by reduction in pain, morning stiffness and disease activity as assessed by both the investigators and patients. ☐ In clinical studies in patients with rheumatoid arthritis and osteoarthritis, Zorprin has been shown to be comparable to conventional release aspirin in controlling the aforementioned signs and symptoms of disease activity and to be associated with a statistically significant reduction in the milder gastrointestinal side effects (see ADVERSE REACTIONS). Zorprin may be well tolerated in some patients who have had gastrointestinal side effects with conventional release aspirin, but these patients when treated with Zorprin should be carefully followed for signs and symptoms of gastrointestinal bleeding and ulceration. ☐ Since there have been no controlled trials to demonstrate whether or not there is any beneficial effect or harmful interaction with the use of Zorprin in conjunction with other nonsteroidal anti-inflammatory agents (NSAI), the combination cannot be recommended (see **Drug Interactions**). ☐ **Because of its relatively long onset of action, Zorprin is not recommended for antipyresis or for short-term analgesia.** ☐ **CONTRAINDICATIONS:** Zorprin should not be used in patients known to be hypersensitive to salicylates or in individuals with the syndrome of nasal polyps, angioedema, bronchospastic reactivity to aspirin, renal or hepatic insufficiency, hypoprothrombinemia or other bleeding disorders. Zorprin is not recommended for children under 12 years of age; it is contraindicated in all children with fever accompanied by dehydration. ☐ **WARNINGS:** Zorprin should be used with caution when anticoagulants are prescribed concurrently, since aspirin may depress platelet aggregation and increase bleeding time. Large doses of salicylates may have hypoglycemic action and enhance the effect of the oral hypoglycemics, concomitant use therefore is not recommended However, if such use is necessary, dosage of the hypoglycemic agent must be reduced. The hypoglycemic action of the salicylates may also necessitate adjustment of the insulin requirements of diabetics. ☐ While salicylates in large doses have a uricosuric effect, smaller amounts may reduce water excretion and increase serum uric acid. ☐ USE IN PREGNANCY: Aspirin can harm the fetus when administered to pregnant women. Aspirin interferes with maternal and infant hemostasis and may lengthen the duration of pregnancy and parturition. Aspirin has produced teratogenic effects and increases the incidence of stillbirths and neonatal deaths in animals. ☐ If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to the fetus. ☐ Aspirin should not be taken during the last 3 months of pregnancy. ☐ **PRECAUTIONS:** Appropriate precautions should be taken in prescribing Zorprin for patients who are known to be sensitive to aspirin or salicylates. Particular care should be used when prescribing this medication for patients with erosive gastritis, peptic ulcer, mild diabetes or gout. As with all salicylate drugs, caution should be exercised in prescribing Zorprin for those patients with bleeding tendencies or those on anticoagulants. ☐ In order to avoid exacerbation of disease or adrenal insufficiency, patients who have been on prolonged corticosteroid therapy should have their therapy tapered slowly rather than discontinued abruptly when Zorprin is made a part of the treatment program. ☐ Patients receiving large doses of aspirin and/or prolonged therapy may develop mild salicylate intoxication (salicylism) that may be reversed by dosage reduction. ☐ Salicylates can produce changes in thyroid function tests. ☐ Salicylates should be used with caution in patients with severe hepatic damage, preexisting hypoprothrombinemia, Vitamin K deficiency and in those undergoing surgery. ☐ Since aspirin release from Zorprin is pH dependent, it may change in those conditions where the gastric pH has been increased as a result of antacids, gastric secretion inhibitors or surgical procedures. ☐ **Drug Interactions:** (See **WARNINGS**) Aspirin may interfere with some anticoagulant and antidiabetic drugs. Drugs which lower serum uric acid by increasing uric acid excretion (uricosurics) may be antagonized by the concomitant use of aspirin, particularly in doses less than 2.0 grams/day. Nonsteroidal anti-inflammatory drugs may be competitively displaced from their albumin binding sites by aspirin. This effect may negate the clinical efficacy of both drugs. Also, the gastrointestinal inflammatory potential of nonsteroidal anti-inflammatory drugs may be potentiated by aspirin. The combination of alcohol and aspirin may increase the risk of gastrointestinal bleeding. ☐ Aspirin may enhance the activity of methotrexate and increase its toxicity. ☐ Sodium excretion produced by spironolactone may be decreased in the presence of salicylates. Concomitant administration of other anti-inflammatory drugs may increase the risk of gastrointestinal ulceration. Urinary alkalinizers decrease aspirin's effectiveness by increasing the rate of salicylate renal excretion. Phenobarbital decreases aspirin's effectiveness by enzyme induction. ☐ **Pregnancy Category D.** See **WARNINGS** Section. ☐ **Nursing Mothers:** Salicylates have been detected in the breast milk of nursing mothers. Because of the potential for serious adverse reactions from aspirin in nursing infants, a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the benefit of the drug to the mother. ☐ **ADVERSE REACTIONS: Hematologic:** Aspirin interferes with hemostasis. Patients with a history of blood coagulation defects or receiving anti-coagulant drugs or with severe anemia should avoid Zorprin. Aspirin used chronically may cause a persistent iron deficiency anemia. ☐ **Gastrointestial:** Aspirin may potentiate peptic ulcer, and cause stomach distress or heartburn. Aspirin can cause an increase in occult bleeding and in some patients massive gastrointestinal bleeding However, the greatest release of active drug from Zorprin is designed to occur in the small intestine over a period of time. This has resulted in fewer symptomatic gastrointestinal side effects. ☐ **Allergic:** Allergic and anaphylactic reactions have been noted when hypersensitive individuals have taken aspirin. Fatal anaphylactic shock, while not common, has been reported. ☐ **Respiratory:** Aspirin intolerance, manifested by exacerbations of bronchospasm and rhinitis, may occur in patients with a history of nasal polyps, asthma, or rhinitis. The mechanism of this intolerance is unknown but may be the result of aspirin-induced shunting of prostaglandin synthesis to the lipoxygenase pathway and the liberation of leukotrienes, *e.g.* slow-reacting substance of anaphylaxis. ☐ **Dermatologic:** Hives, rashes, and angioedema may occur, especially in patients suffering from chronic urticaria. ☐ **Central Nervous System:** Taken in overdoses, aspirin provides stimulation which may be manifested by tinnitus. Following initial stimulation, depression of the central nervous system may be noted. ☐ **Renal:** Aspirin rarely may aggravate chronic kidney disease. ☐ **Hepatic:** High doses of aspirin have been reported to produce reversible hepatic dysfunction. ☐ **OVERDOSAGE:** Overdosage, if it occurs, would produce the usual symptoms of salicylism. tinnitus, vertigo, headache, confusion, drowsines, sweating, hyperventilation, vomiting or diarrhea. Plasma salicylate levels in adults may range from 50 to 80 mg/dl in the mildly intoxicated patient to 110 to 160* mg/dl in the severely intoxicated patient. An arterial blood pH of 7.1 may indicate serious poisoning. The clearance of salicylates in children is much slower than adults and should receive due consideration when aspirin overdosages occur in infants; salicylate half-lives of 30 hours have been reported in infants 4-8 months old. Treatment for mild intoxication should include emptying the stomach with an emitic, or gastric lavage with 5% sodium bicarbonate. Individuals suffering from severe intoxication should, in addition, have forced diuresis by intravenous infusions of sodium bicarbonate and dextrose or sodium lactate. In extreme cases, hemodialysis or peritoneal dialysis may be required. ☐ (*A plasma salicylate level of 160 mg/dl in an adult is usually considered lethal.) ☐ **DOSAGE & ADMINISTRATION:** *In order to achieve a zero-order release, the tablets of Zorprin should be swallowed intact.* ☐ *Breaking the tablets or disrupting the structure will alter the release profile of the drug.* ☐ *It is recommended that Zorprin be taken with sufficient quantities of fluids (8 oz. or more).* ☐ **Adult Dosage:** For mild to moderate pain associated with rheumatoid arthritis and osteoarthritis, the recommended initial dose of Zorprin is 1600 mg (2-800 mg tablets) twice a day. Because of Zorprin's prolonged release of aspirin into the bloodstream, Zorprin tablets may be taken as a b.i.d. dose. Further adjustment of the dosage should be determined by the physician, based upon the patient's response and needs. Since it will take 4-6 days to reach steady-state levels of salicylic acid with Zorprin, it is recommended dosages be given for at least one week before further adjustment. In general, patients with rheumatoid arthritis seem to require higher doses of Zorprin than do patients with osteoarthritis. ☐ **Zorprin is not recommended for children below the age of 12.** ☐ **HOW SUPPLIED: Zorprin Tablets 800 mg;** plain, white capsule-shaped tablets. ☐ Bottles of 100 Tablets—NDC 0524-0057-01. ☐ **Caution:** Federal law prohibits dispensing without prescription. ☐ U.S. Patent No. 4,308,251. ☐ **Manufactured and Distributed by: BOOTS PHARMACEUTICALS, INC., Shreveport, Louisiana 71106 U.S.A.**

The structural formula of aspirin is:



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RICK HUTCHERSON, *Jefferson City*

Feasibility Considerations of Nuclear Magnetic Resonance Scanners

One of the most eagerly awaited pieces of diagnostic medical machinery at this time is the Nuclear Magnetic Resonance Scanner. This report by Mr. Rick Hutcherson highlights the development and basic physics of this equipment. In explaining the role of the Food and Drug Administration and various state planning agencies, the article indicates how involved government has become in the practice of medicine.

Mr. Hutcherson is Health Planning Specialist, Department of Social Services, Missouri Health Planning and Development Agency.

IMAGING THE NUCLEAR MAGNETIC RESONANCE (NMR) of body tissue has been under study, initially in England, since the mid-1970s. Major factors that have affected the development of the equipment used in the NMR body imaging include stronger magnets with very stable magnetic fields, increasingly sophisticated computer software and other features.

Initial research was done with magnets that were flawed by limitations of relatively weak and erratic magnetic field strengths and small access bores. The strength of the magnetic field is instrumental in causing neutrons to resonate and, thereby, become visible for imaging. It is imperative that the strength of the magnetic field be maintained within close tolerances so that neutron density and biochemical activity can be accurately identified and measured. Many of the early magnets could only develop field strengths sufficient to image hydrogen atoms. This first equipment typically had a small access bore and was cooled with water. Since these first magnets were generally electro-magnets that produced significant heat, the efficiency of the system to waste the heat limited the size and the field strength capacity of the magnet.

During this period, there were major advancements occurring in the computer software field. As it happened, the advances in software sought for C/T scanning formed a substantial basis from which to launch NMR scanning. Many of the software techniques developed during this period for C/T scanners were applied with little editing to NMR systems.

The beginning of this decade marked the point when many researchers in the United States began researching and publishing the results of their studies of NMR imaging. By this time, the scanning equipment was much improved over earlier models and, of course, the capabilities of the computer hardware and software were expanding constantly.

The manufacturers of NMR equipment today are yet small in number and, with some exception, have equipment that can be classed together for discussion purposes. Several of the major manufacturers of NMR equipment are Technicare, Picker, Siemens, General Electric, Phillips, and Fonar. These manufacturers are all in different stages of developing and testing their equipment. Some have various models that have particular field strength capacities, energy requirements, housing requirements, etc.

Moreover, the technology and equipment for NMR must be reviewed by federal agencies to determine its "safety and effectiveness" for clinical use. The consideration of reimbursement available for NMR procedures is another factor that is at the forefront of discussions about NMR.

The equipment used for NMR imaging, simply stated, involves a patient gantry very similar to that of a full body C/T scanner, a relatively large electro-magnet surrounding the access bore of the scanner, and computer equipment similar to that required for C/T units. Various features characteristic of NMR equipment necessitate attention to be given to the placement, operation and costs of operation associated with the equipment.

There are primarily two types of magnets that are being marketed. They are called "resistive-type" and "superconductive-type" magnets (mags). While they differ in various other respects, the most outstanding functional difference is the strength of their respective magnetic fields. This is of ultimate importance in that the field strength determines which chemical elements can be imaged.

The resistive mag develops a field strength of approximately 1.5 to 3.0 kilogauss. It is powered by constant electrical current and is water cooled. This type of magnet weighs approximately 6,000 pounds. The NMR system with the resistive mag is generally priced somewhat less than $1 million. The imaging capacity of the resistive mag, because of the strength of its magnetic field, is primarily limited to hydrogen nuclei. While this certainly fulfills the goal of imaging soft tissue, it does relatively little in the way of chemical shift spectroscopy.

The superconductive mag has field strengths of approximately 3.0 to 15.0 kilogauss. In that only by exposing tissue samples to stronger and stronger magnetic fields will it be possible to image a broader range of atoms than hydrogen and phosphorus, one major direction of NMR equipment development is toward stronger magnetic field capacity. The magnetic field of the superconductive magnet is established by electrical current. However, it is maintained by a cryogen process of liquid helium and nitrogen gases that also serves to maintain the system's ambient temperature at approximately 4° kelvin. This magnet typically weighs approximately 11,000 pounds. The price for the magnet is approximately $2 million. Researchers have been able to image both the hydrogen and phosphorus atoms with some superconductive systems.

The computer software is a major component that contributes to the utility of either type of magnet to image soft tissue structures and to do so with a reasonable degree of contrast and spatial resolution. Some researchers have suggested that notwithstanding software differences, the two mag types can image many tissue samples at a similar level of resolution. However, the superconductive magnet, due to its field strength, surpasses the resistive magnet if the purpose is to image other than hydrogen nuclei. Since chemical shift spectroscopy is definitely a major potential capability of NMR technology unlike traditional radiographic methods, e.g., C/T scanning, the thrust is in the direction of NMR equipment with greater magnetic field strength. The inability of water to waste heat as effectively as other methods while maintaining limits on the system's size and weight may eventually render the water cooled resistive-type magnet obsolete.

Aside from the inherent differences between the two types of magnets, there are some commonalities. The physical structure intended to house either machine must be constructed to accommodate the weight of the machines. The power supply must be substantial as well. In the case of the superconductive magnet, liquid gas storage facilities are required.

Literature on the Technicare 3.0 to 5.0 kilogauss system indicates that helium is boiled off at a rate of 18 liters per day and nitrogen at 72 liters per day. Boil off occurs constantly regardless of machine use.

There are, of course, magnetic and radio frequency (RF) wave influences that affect the magnet and that the magnet has on ferrous objects in the vicinity. The machine must be shielded from incoming RF signal interference. This is accomplished by room and internal magnet shielding. The affect of the magnetic field on ferrous objects must be considered when constructing plumbing and heating systems in the facility. Further, items that are within close range of the machine will be affected if they are made of ferrous materials. The influence of the magnet field, although being less as distance from the magnet increases, may preclude the machine being placed near elevator shafts, data processing equipment, etc.

Nuclear magnetic resonance scanners are currently located in approximately 12 locations in the United States. Most are located in medical facilities that are heavily research or training oriented.

The majority of installations are affiliated with medical colleges. Units are presently located at the Cleveland Clinic in Cleveland, Ohio; University of San Francisco; University of Pennsylvania; Massachusetts General Hospital; and Columbia University.

Nuclear magnetic resonance scanners are protected under the medical devices amendments of the Food, Drug and Cosmetic Act passed in 1976. As such, manufacturers of NMR equipment must show them to be "safe and effective" for the indications claimed on their labeling before placing them on the market for open sale. Until such time, NMR equipment is considered by the Federal Food and Drug Administration (FDA) as an "investigational device." Until it receives FDA approval, NMR equipment can be placed only for the purpose of the manufacturer to collect data to support its claim of the machine being "safe and effective." The manufacturer is relatively unrestricted in its choices of where to place the device as long as the clinical studies done are in accord with the FDA's investigational device exemption.

As of this writing, the FDA has not approved NMR equipment for open sale. Approval is suggested by the FDA to be possible by later this year.

There is no third-party reimbursement available to devices not approved by the FDA. Once approval is given, federal third-party payors will initiate consideration of reimbursing various procedures performed by NMR equipment. However, officials from the Public Health Service component of the U. S. Department of Health and Human Services point out that there will be a few types of procedures approved for reimbursement during the initial stages of clinical application of NMR. It is intended that there be minimal incentive given to conduct duplicative clinical studies using NMR and other imaging modalities on the same client, the latter being used to interpret or verify the findings of the former.

A number of state planning agencies or certificate of need authorities have moved to constrain the proliferation of NMR equipment until more is known regarding the clinical utility and cost effectiveness of the equipment. For instance, the Illinois Department of Public Health, with approval of the state's Health Facilities Planning Board, has adopted rules that would allow one NMR scanner per medical college in Illinois. The states of Georgia, Ohio and Indiana are operating under similar arrangements.

The equipment used for NMR imaging of body tissue has developed due to the strides made in various scientific fields in recent years. Likewise, as time passes and additional advances are achieved, the equipment used today during the infancy of NMR imaging will change markedly. This will be complimented by the institutional experience of clinical practitioners with NMR equipment. The stage is being set to provide for an orderly proliferation of NMR equipment that will facilitate the accumulation of clinical experience with NMR while, hopefully, preventing the unnecessary expenditure of finite health care dollars for equipment whose use is not clearly established and which may quickly be rendered obsolete by new technological advances.

Members of the Missouri State Medical Association are invited to attend the American Rural Health Association's Eighth Annual Institute that will examine the overall theme, "Exploring Frontiers of Rural Health — Visions of a Better Tomorrow," on June 5-8, 1984. One of the keynote speakers will be Dr. Ray Marshall, Secretary of Labor under President Carter. Dr. Marshall and other well-known speakers will explore the challenge of meeting rural health needs with innovative health strategies in workshop sessions and through research-oriented papers. The Institute will be held at Epcot Center, Orlando, Fla. For information, contact Dr. L. E. Moody, College of Nursing, University of Florida, JHMHC, Box J-187, Gainesville, FL 32610.

PAUL H. YOUNG, M.D., *St. Louis*

Intracranial Hemorrhage Diagnosis by CAT Scan

A Special Review

The widespread availability of the CAT scanner has dramatically improved the diagnosis of intracranial hemorrhage, not only in terms of its earlier recognition but also in terms of precisely defining its etiology. As a result, the treatment of intracranial hemorrhage also has improved with the earlier, more precise CAT scan diagnosis permitting rapid, yet definitive medical or surgical intervention or both. However, the full realization of this CAT scan potential for patients with intracranial hemorrhage depends entirely on its accurate interpretation by the requesting physician.

In summary, the author reviews the differential diagnosis of intracranial hemorrhage based on the CAT scan. As an aid for the initial care physician, the following review lists both the common and uncommon causes of intracranial hemorrhage and can be used as a handy reference.

Dr. Young is Assistant Professor of Neurosurgery, Department of Neurosurgery, St. Louis University School of Medicine. Reprint requests should be addressed to him in care of the Department of Neurosurgery, St. Louis University School of Medicine, 1325 Grand Blvd., St. Louis, MO 63104. Please note the suggested reading list on page 200 and Table 1 on page 202.

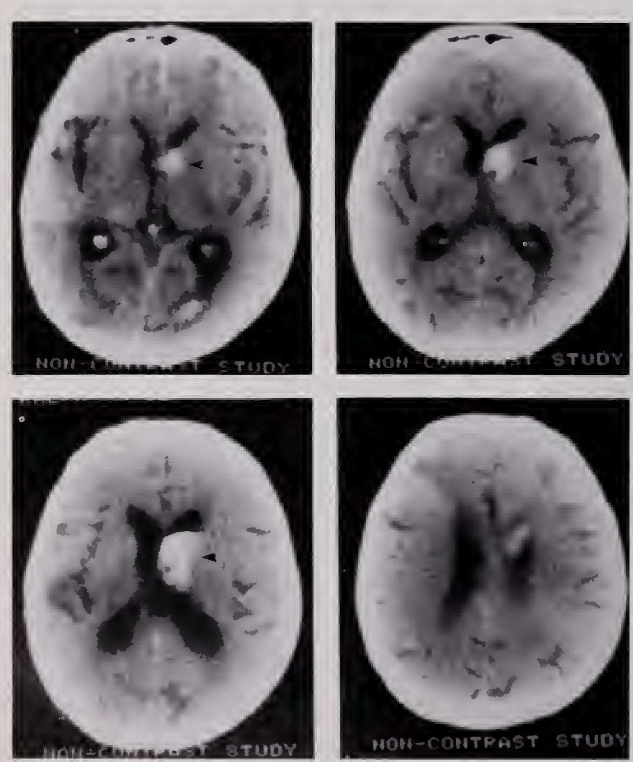

Fig. 1 Small hypertensive hemorrhage *(arrow)* isolated in the caudate nucleus portion of the basal ganglia, the typical starting point for this type of hemorrhage.

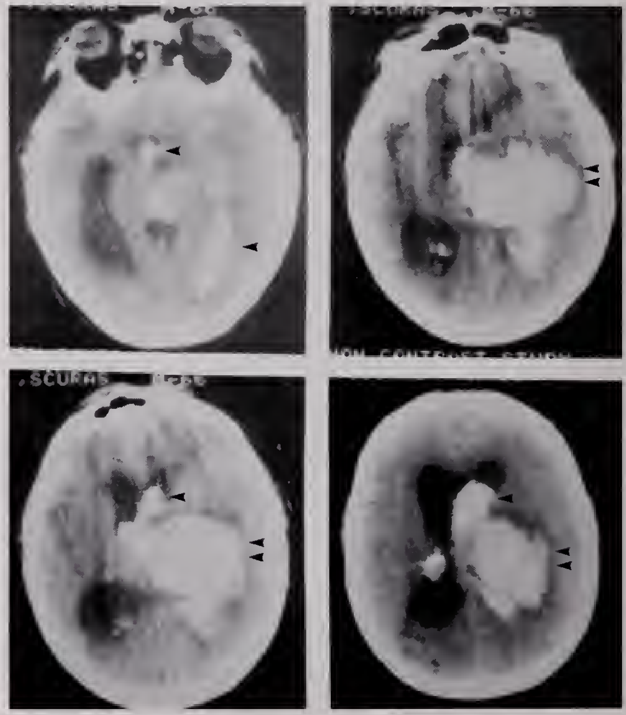

Fig. 2 Large hypertensive hemorrhage beginning in the same area as seen in Fig. 1, but spreading intraventricularly *(1 arrow)* and intracerebrally *(2 arrows)*. Massive size of the hemorrhage is typical of hypertensive hemorrhages, thus explaining the frequent fatal outcome.

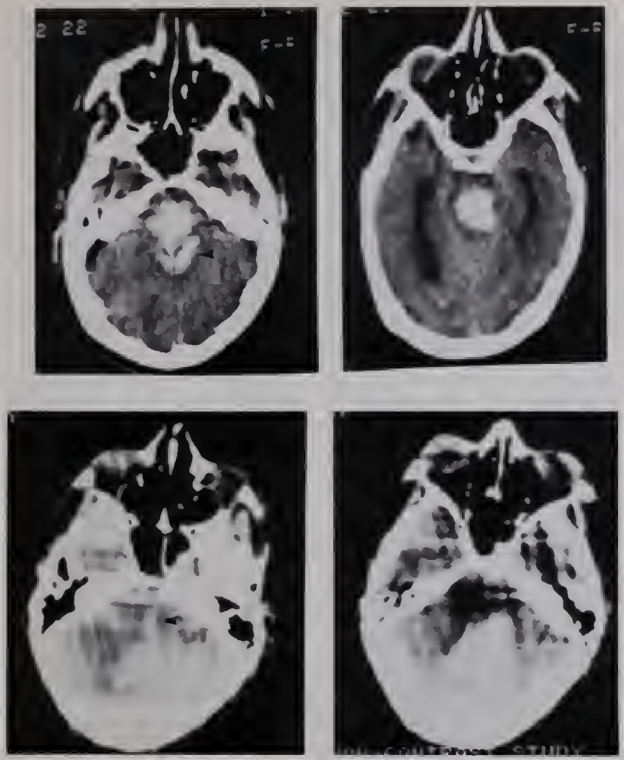

Fig. 3 Large pontine *(above)* and cerebellar *(below)* hypertensive hemorrhages that fill the fourth ventricle *(arrow)*. Unlike hypertensive bleeding in other locations, cerebellar hemorrhage (even massive) can be survived if prompt surgical treatment is initiated.

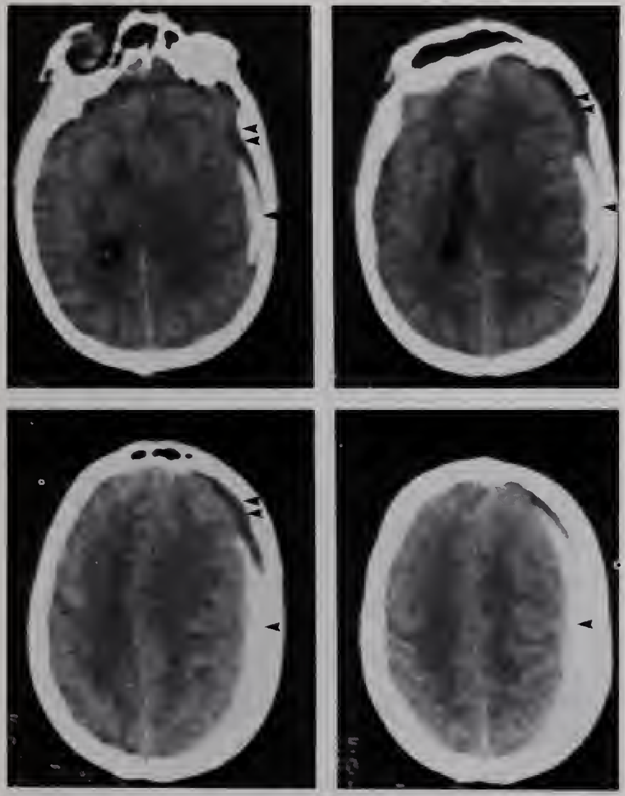

Fig. 5 Crescent-shaped subacute subdural hematoma. When acute, the hematoma appears very dense *(1 arrow)* and usually is associated with very recent head trauma producing a tear of a cortical or bridging vein. When chronic, the hematoma appears much less dense *(2 arrows)* and the history of head injury may be overlooked.

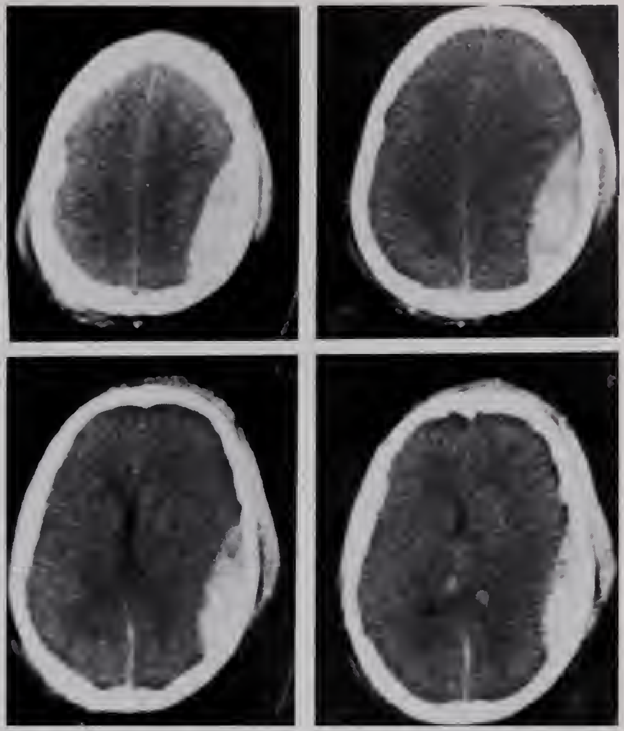

Fig. 4 Typical lens-shaped epidural hematoma that is almost always associated with a parietal skull fracture and a tear of one of the meningeal vessels, especially the middle meningeal artery.

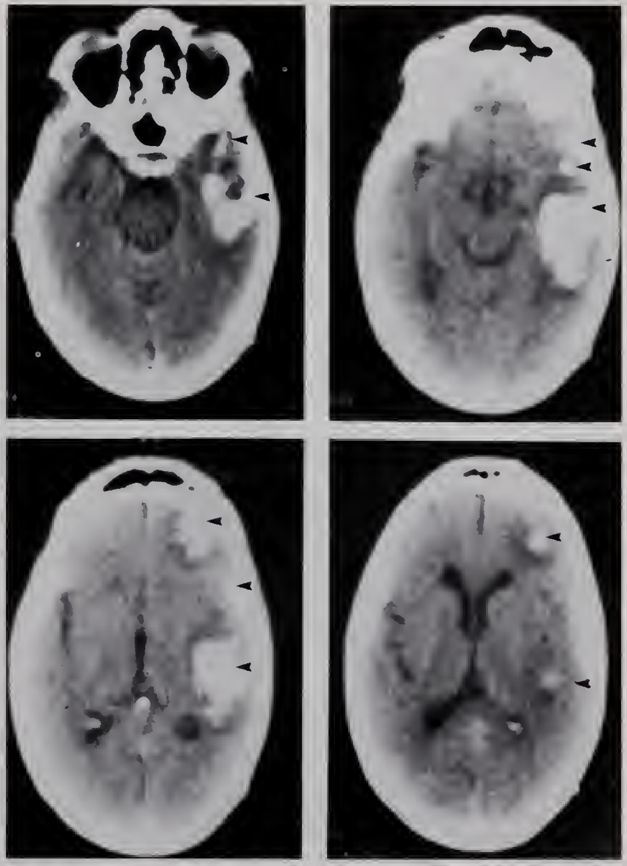

Fig. 6 Multiple intracerebral hemorrhages *(arrows)* are nearly always associated with recent severe head trauma. All traumatic intracranial hemorrhages, regardless of location, should be considered for immediate surgical intervention.

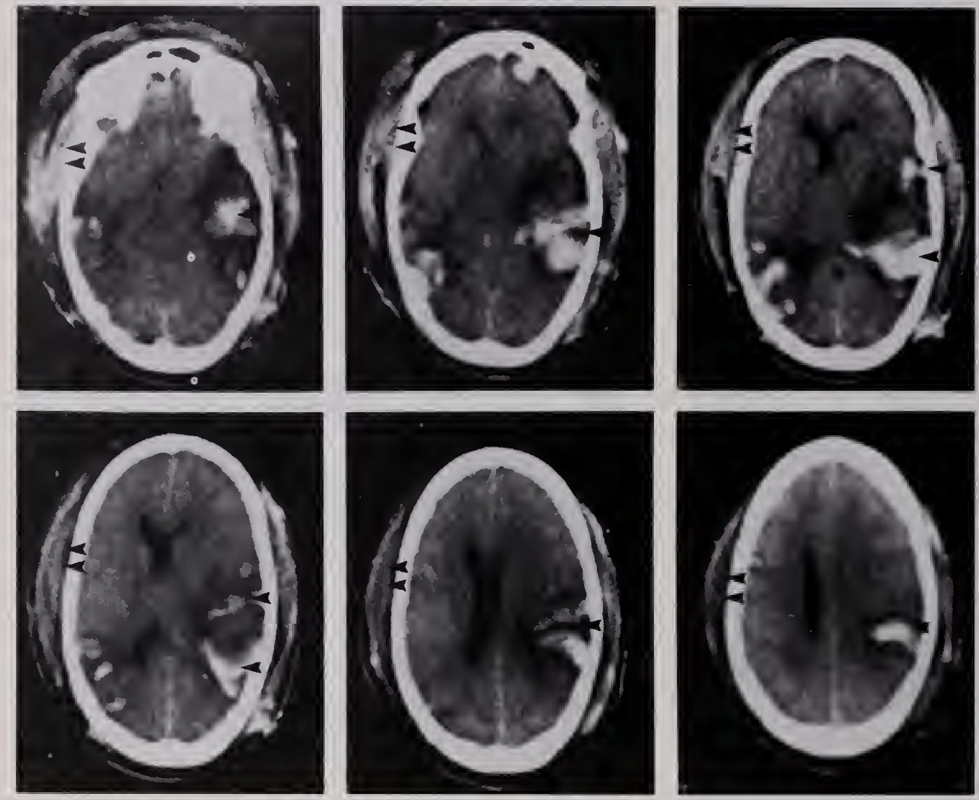

Fig. 7 Bilateral multiple intracerebral hemorrhages *(1 arrow)* associated with trauma. Bleeding occurs in areas of contused brain. Note also the large amount of scalp contusion and galeal swelling *(2 arrows)*, a sure sign of head trauma.

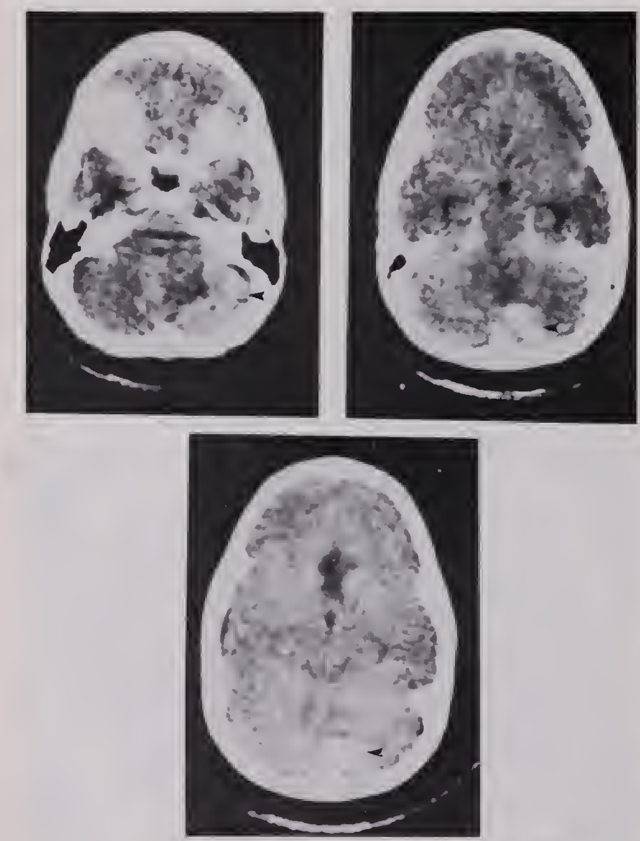

Fig. 8 Small intracerebellar hemorrhage *(arrow)* associated with a blow to the occiput.

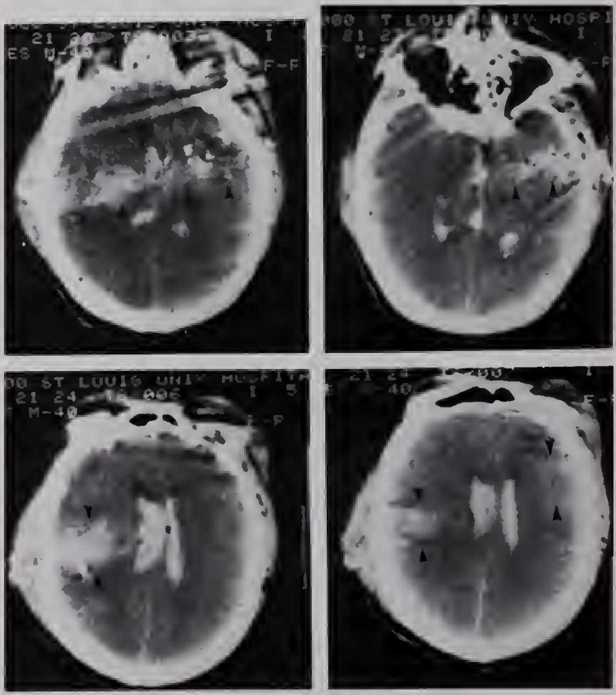

Fig. 9 Intracerebral hemorrhage associated with a gunshot wound to the head. Tract of the bullet can be identified *(arrows)* as it passes through the ventricular system and cerebrum.

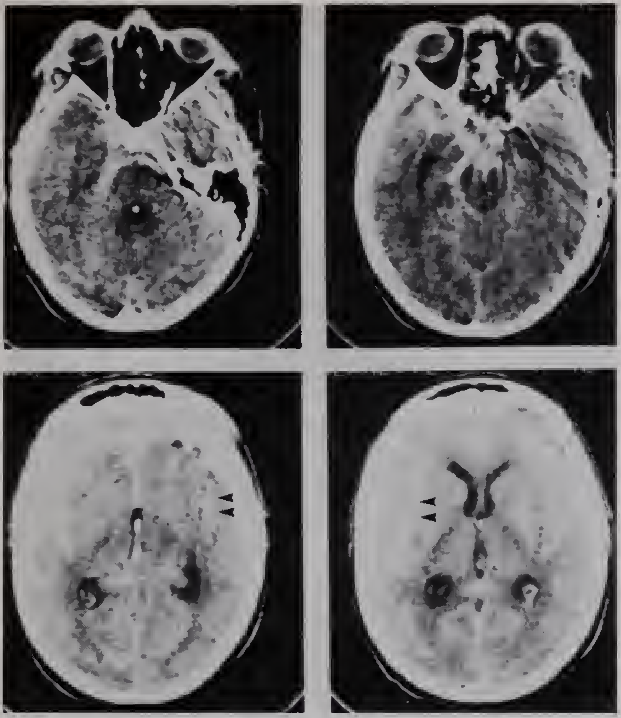

Fig. 10 Diffuse subarachnoid hemorrhage filling the basal cisterns *(1 arrow)* and subarachnoid space *(2 arrows)* due to a ruptured aneurysm. In all instances of subarachnoid hemorrhage, angiography is required to pinpoint the etiology (aneurysm, AVM, etc.).

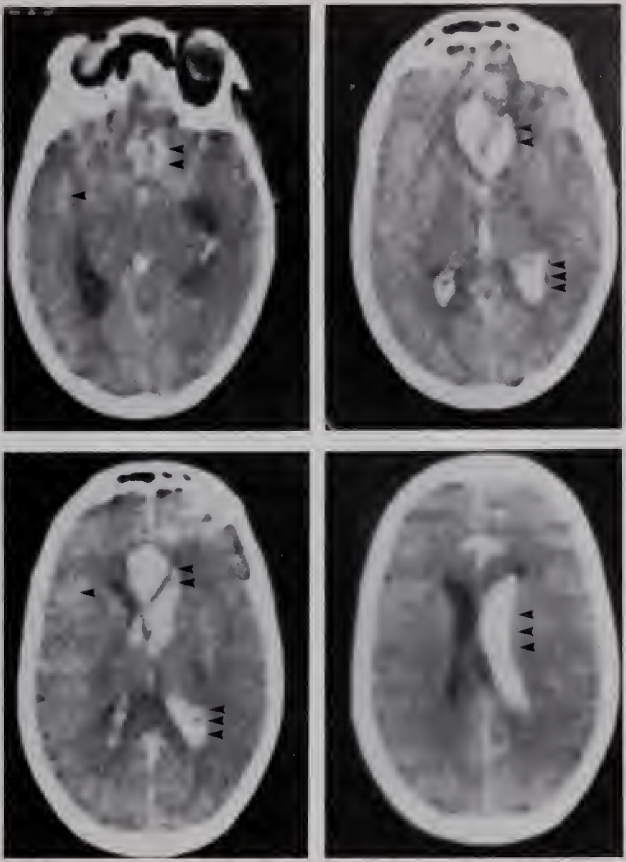

Fig. 11 Subarachnoid *(1 arrow)*, intracerebral *(2 arrows)* and intraventricular *(3 arrows)* hemorrhage following rupture of an anterior communicating artery aneurysm. Location of the hematoma following an aneurysmal rupture usually suggests the location of the aneurysm.

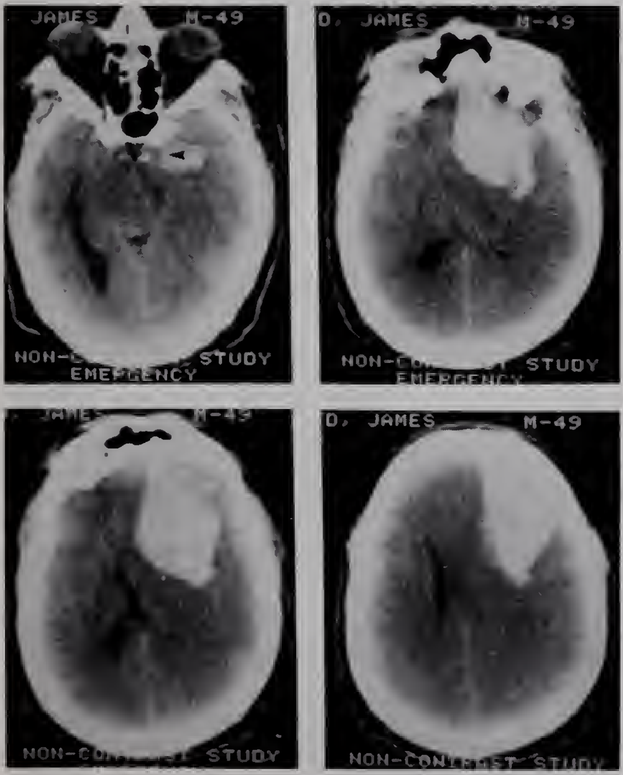
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Fig. 12 Large intracerebral hemorrhage following rupture of the posterior communicating artery aneurysm. Lower most portion of the hematoma *(arrow)* points to the position of the aneurysm.

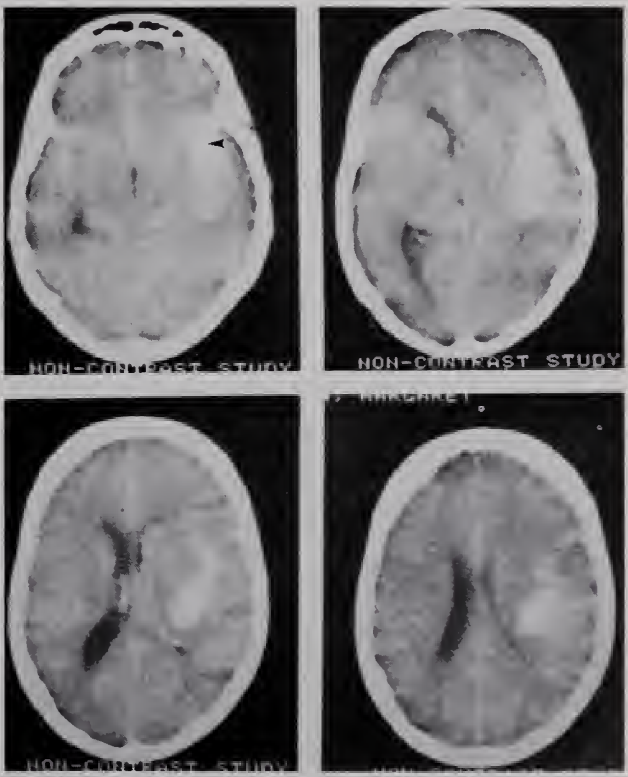
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Fig. 13 Subarachnoid and intracerebral hemorrhage following rupture of a middle cerebral artery aneurysm. Again, the hematoma surrounds the aneurysm located in the Sylvian fissure *(arrow)*.

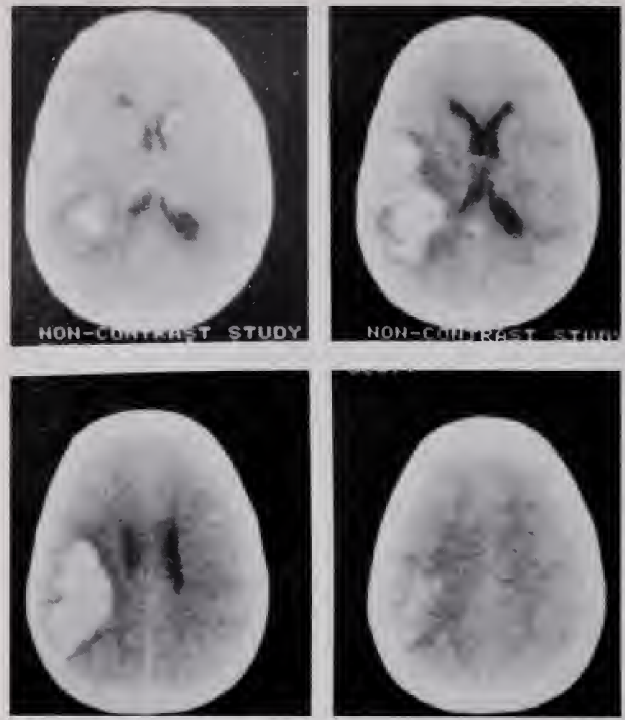

Fig. 14 Large intracerebral hemorrhage following rupture of an anterio-venous malformation (AVM). Discontinuity of the hemorrhage suggests the presence of an AVM. Contrast scan and angiography are necessary to fully delineate the lesion.

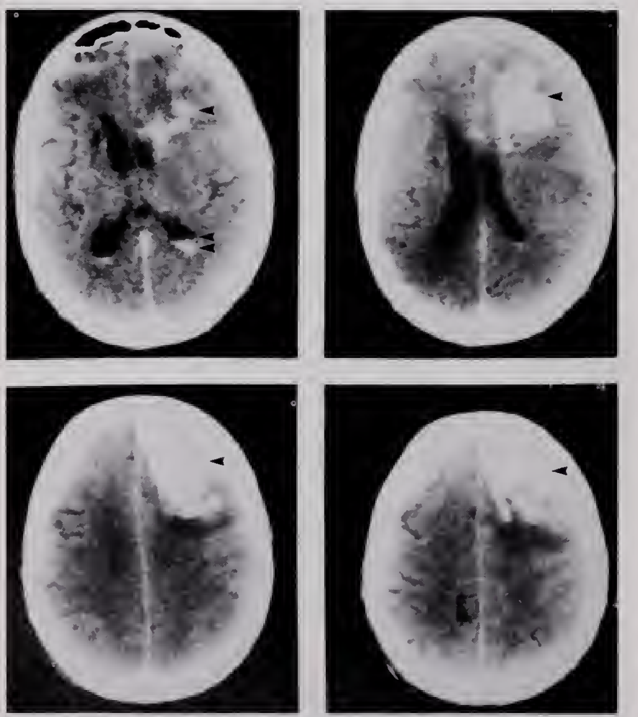

Fig. 16 Large intracerebral *(1 arrow)* and small intraventricular *(2 arrows)* hemorrhage in a patient who was anticoagulated for previous TIAs. Coagulation studies should be performed in all patients with intracranial hemorrhage.

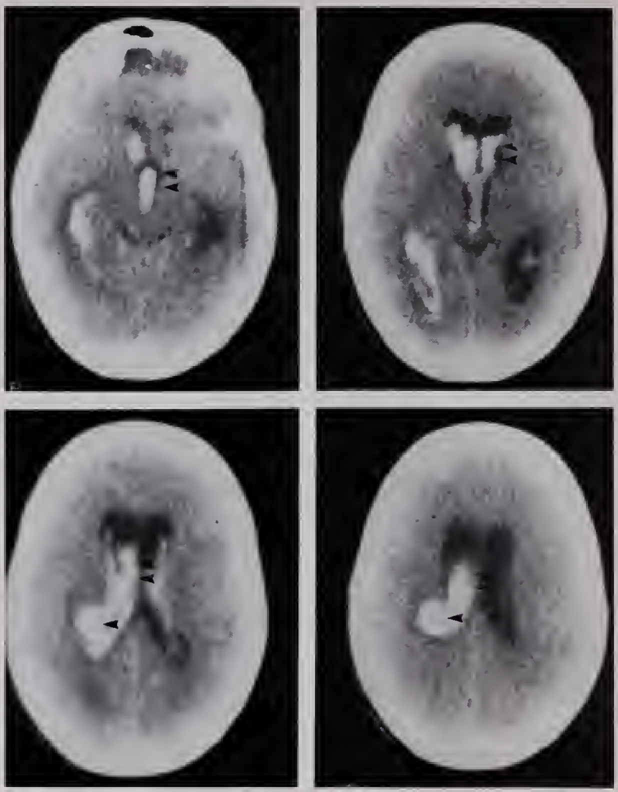

Fig. 15 Small intracerebral *(1 arrow)* and large intraventricular hemorrhage *(2 arrows)* following rupture of a periventricular AVM. Again, the etiological diagnosis rests on angiography.

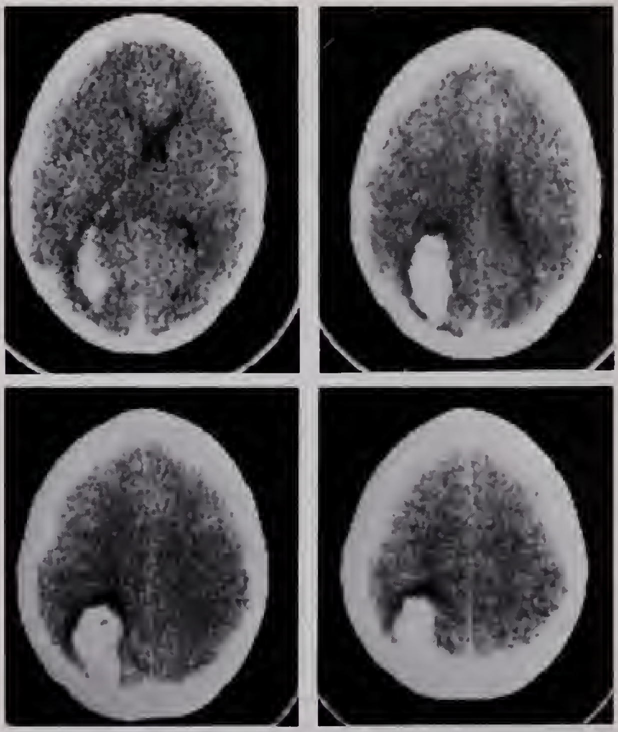

Fig. 17 Large intracerebral hemorrhage from bleeding into a chorio-carcinoma metastasis. The preoperative evaluation of this hematoma would have to include an angiogram to rule out an arterio-venous malformation. The ultimate diagnosis often is made only by a thorough histological analysis of the hematoma cavity and surrounding tissues following surgical removal.

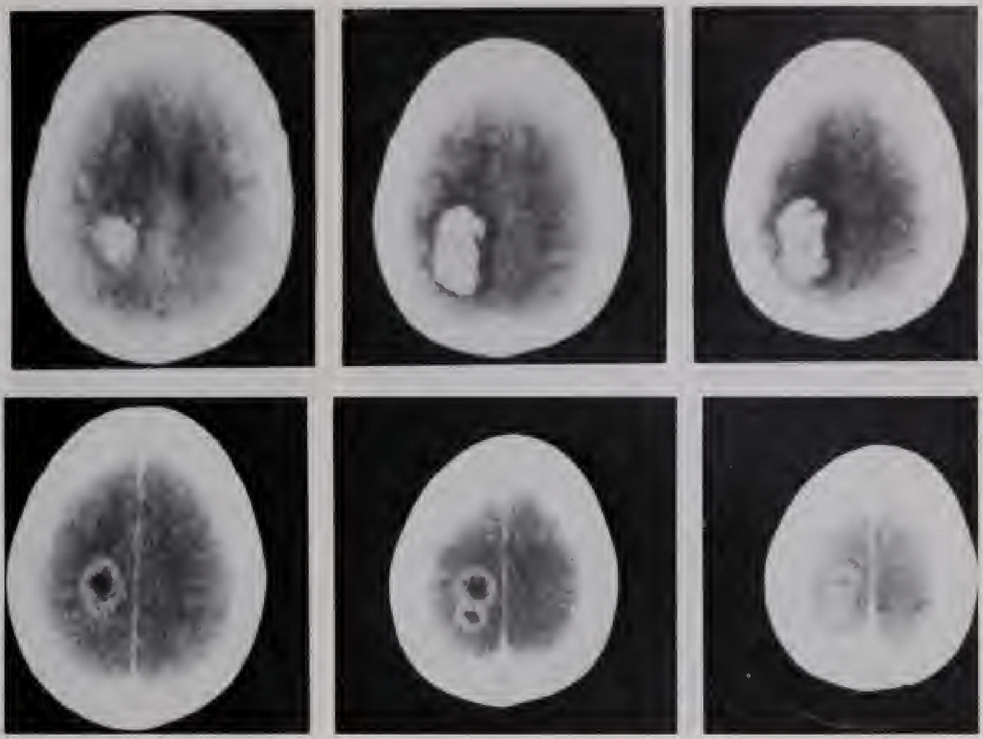

Fig. 18 Large intracerebral hemorrhage *(above)* in a patient with a glioblastoma multiforme *(below)* who was awaiting surgery. Most intracranial tumors can be associated with hemorrhage, but rarely is this the presenting event.

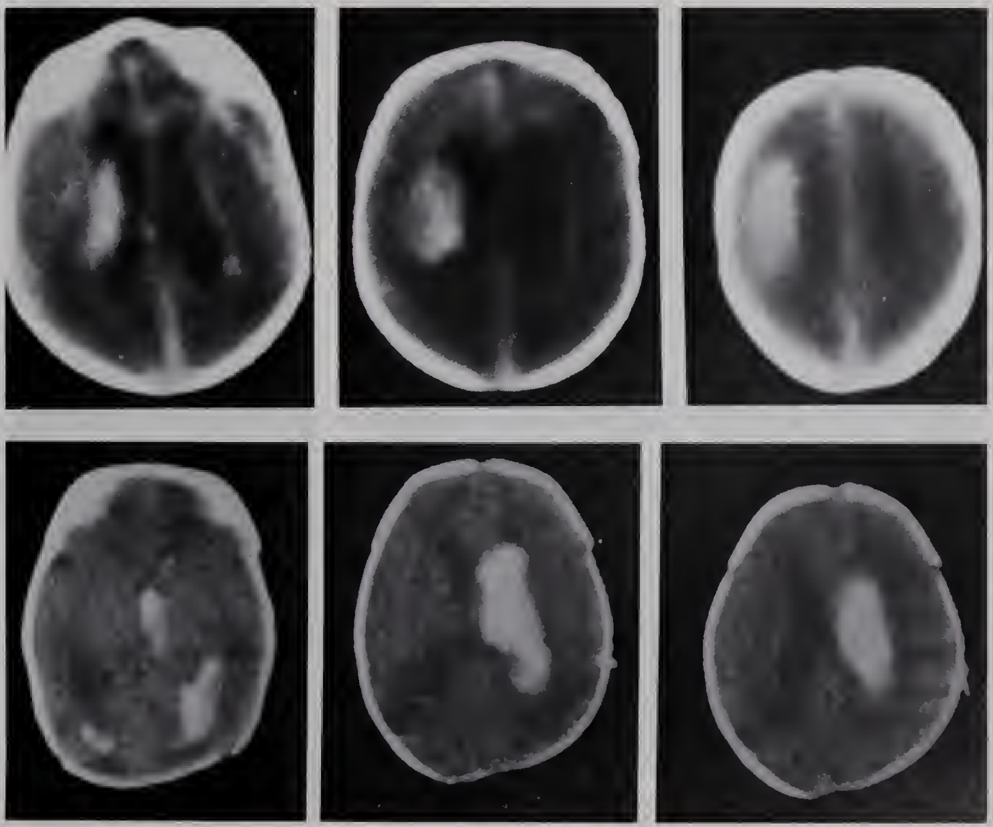

Fig. 19 Large intracerebral *(above)* and intraventricular *(below)* neonatal hemorrhages. These hemorrhages have a predilection for occurring in the premature neonate with respiratory distress. Hydrocephalus is a frequent sequela.

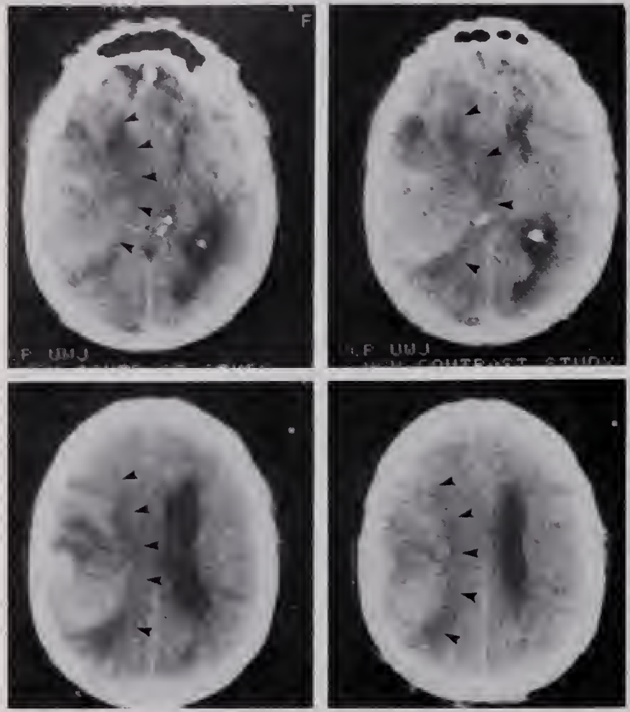

Fig. 20 Large hemorrhagic infarction with areas of both increased (hemorrhage) and decreased (infarction) density. Typically, the infarction and hemorrhage are isolated to the distribution of one cerebral vessel. In this instance, it is the left middle cerebral artery *(arrows)*.

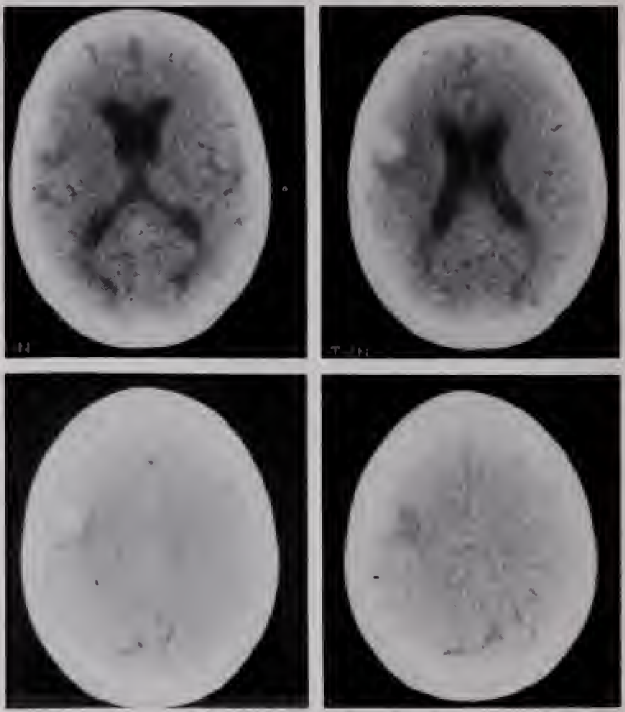

Fig. 22 Small intracerebral hemorrhage in an intravenous drug abuser. The pathologic cause is that of necrotizing angiitis. As with the other forms of inflammatory intracranial hemorrhage, angiography is essential to confirm the diagnosis.

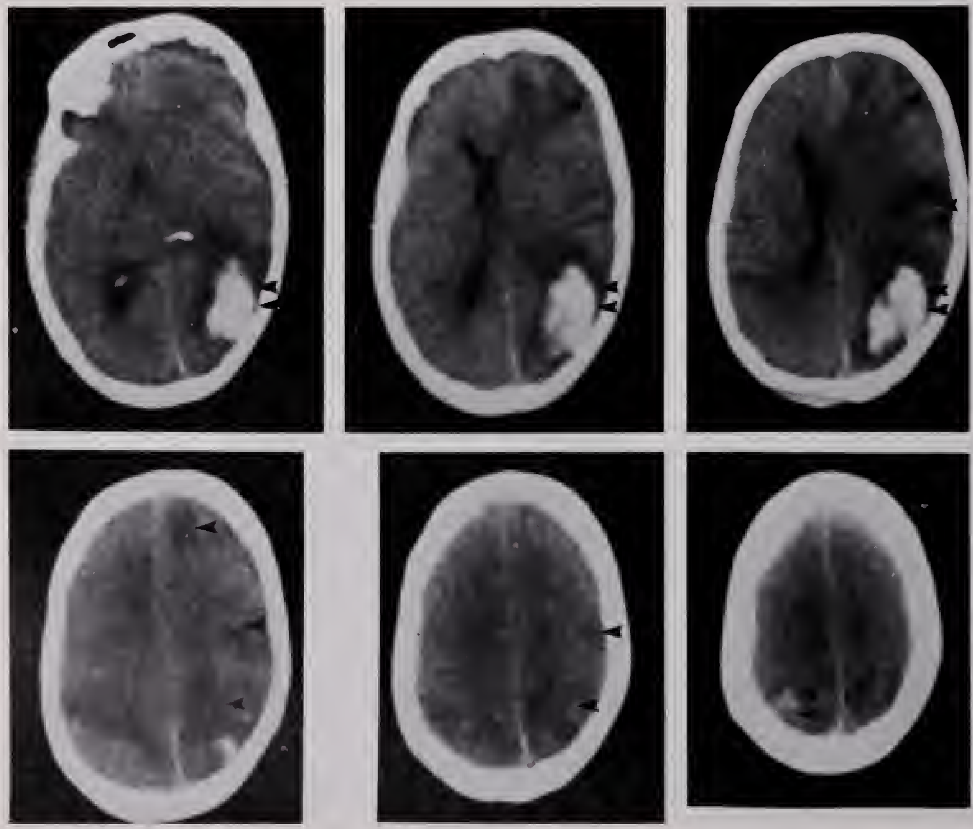

Fig. 21 Large intracerebral hemorrhage in a patient with systemic Lupus erythematosus. The hemorrhage results from transmural vasculitis with vessel weakening and eventual rupture. Usually, the smaller cortical vessels are affected, resulting in a more superficial hemorrhage. Notice the widespread involvement of the cerebrum with evidence of infarction *(1 arrow)* and with smaller areas of hemorrhage *(2 arrows)* suggesting the diffuse inflammatory nature of this process.

SUGGESTED READING LIST

1. Spontaneous Intracerebral Hemorrhage, Cahill and Ducker; Clinical Neurosurgery 29:722-779, 1982.

2. Roentgen Diagnosis of the Central Nervous System in Encyclopedia of Medical Radiology; Volume XIV, Part 1A, Springer-Verlag, 1981.

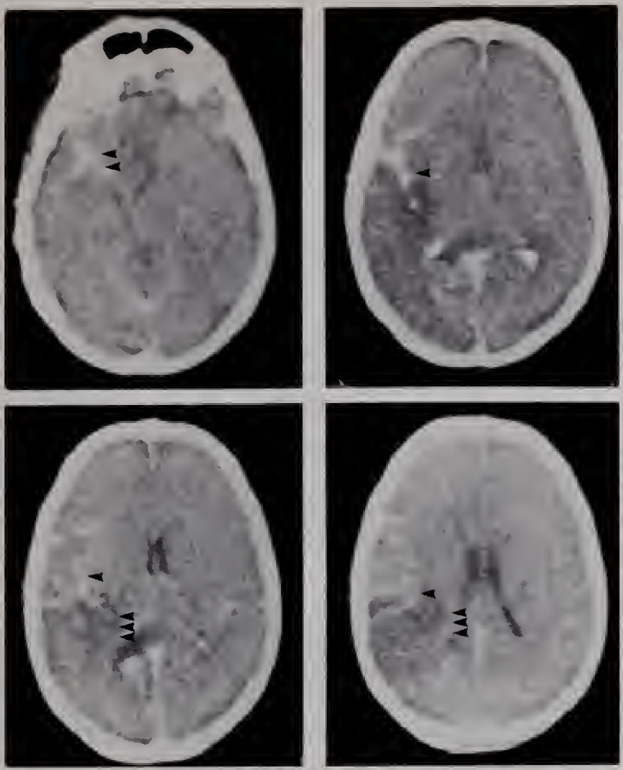

Fig. 23 Subarachnoid *(1 arrow)* and intracerebral *(2 arrows)* hemorrhage in a child with severe H-flu meningitis. The arteritis associated with infectious processes in the CSF can lead to aneurysmal dilatation of both large and small cerebral vessels resulting not only in hemorrhage but also in infarction *(3 arrows)*.

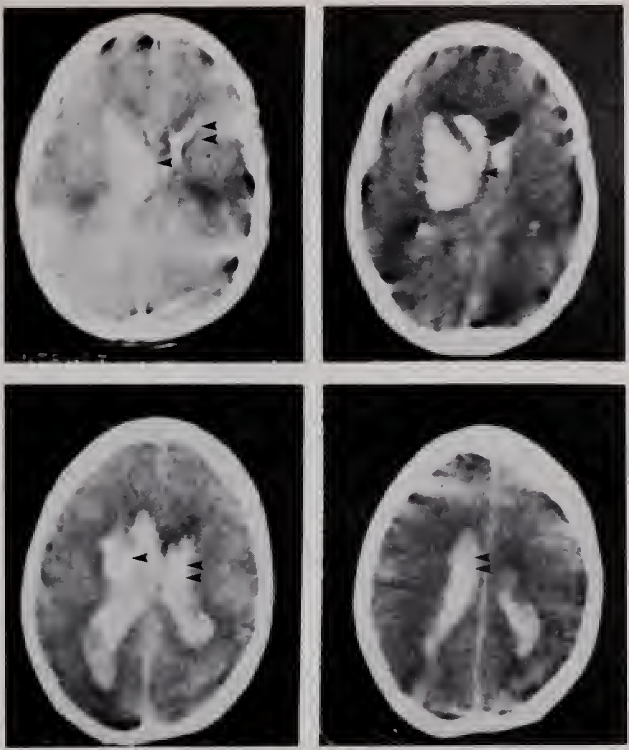

Fig. 24 Large intracerebral *(1 arrow)* and intraventricular *(2 arrows)* hemorrhage in a child with Moya-Moya syndrome. In this disorder, multiple small collateral vessels are formed to circumvent the gradually occluding large Circle of Willis arteries. These small vessels often rupture and result in diffuse subarachnoid or intracerebral bleeding.

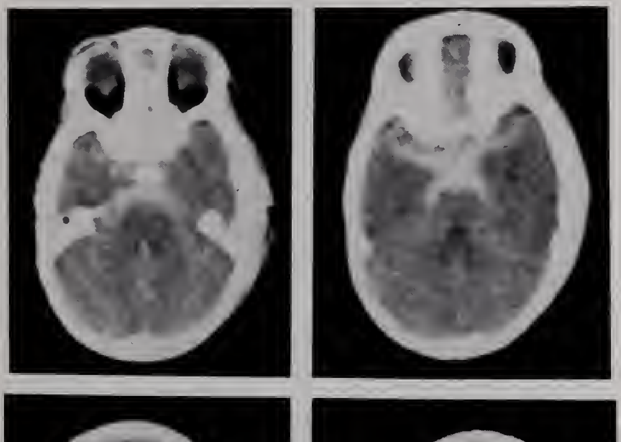

Fig. 25 Diffuse subarachnoid hemorrhage. Despite thorough angiographic evaluation, no source of bleeding is uncovered in about 10% of patients with this type of bleeding. Presumably, the hemorrhage results from the rupture of a microaneurysm that is too small to be radiographically identified.

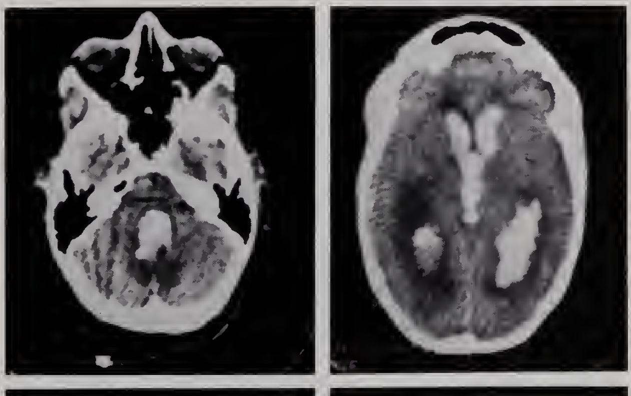

Fig. 26 Diffuse intraventricular hemorrhage apparently preceding a syncopal episode. At postmortem no source of this bleeding was uncovered. This type of hemorrhage usually follows the rupture of a cryptic peri-ventricular AVM that destroys itself in bleeding, thereby making its eventual identification impossible.

TABLE 1

THE MOST FREQUENT CAUSES OF INTRACRANIAL HEMORRHAGE

Etiology	*Location*	*Age (Yrs.)*	*Further Tests*	*History (Key to Diagnosis)*
1. Hypertensive (other causes include amyloid, angiopathy pain, vasopressor, drugs, etc.)	Intracerebral (deep-involving: basal ganglia, thalamus, or pons/cerebellum) —often intraventricular	50-70	None	Sudden headache and coma with long-standing hypertension
2. Trauma	Epidural Subdural —frequently intracerebral and subarachnoid —occasionally intraventricular	10-30	None	Trauma to head with immediate or progressive coma
3. Aneurysm (berry, mycotic, or fusiform)	Subarachnoid —occasionally intracerebral —rarely intraventricular	40-60	Angiography	Sudden severe headache and stiff neck
4. AVM (angioma)	Subarachnoid and/or Intracerebral	20-40	Contrast scan Angiography	Similar to aneurysm with focal deficit History of seizures
5. Coagulopathy (related to anticoagulants, DIC, leukemia, hemophilia, aplastic anemia, liver disease, renal failure, etc.)	Intracerebral —rarely intraventricular or subarachnoid (if associated with trauma — subdural)	——	Coagulation Studies	Sudden deterioration in patient with known coagulation disorder or on anticoagulants
6. Tumor Primary (especially glioblastoma, oligodendroglioma, papilloma, meningioma, and undifferentiated tumors of infancy) Metastatic (especially bronchogenic CA, melanoma, chorio CA, and renal cell CA	Intracerebral —rarely intraventricular or subarachnoid	——	Contrast scan Angiography	Sudden deterioration in patient with known primary
7. Neonatal (Prematurity, RDS, stress, etc.)	Intraventricular and intracerebral	Neonate	None	Sudden deterioration in premature infant
8. Hemorrhagic Infarction (Embolic or sinus thrombosis)	Intracerebral (in a major vessel distribution)	——	None	Ischemic symptoms followed by headache and deterioration
9. Hyperimmune (SLE, Polyarteritis nodosa, rheumatic fever, RA, Takayasu's, Giant cell (temporal) arteritis, IV drug use, etc.)	Intracerebral	——	Sed rate, ANA, etc. Angiography	Sudden headache with previous history of inflammatory disease
10. Infectious (viral, bacterial (esp. H'flu), fungus, T.B., syphilis, parasites)	Intracerebral	——	CSF Cultures Angiography	Sudden deterioration in patient with known CNS infection
11. Collateral Vessel Rupture (Moya-Moya, atherosclerosis)	Subarachnoid and Intracerebral —occasionally intraventricular	——	Angiography	Sudden coma or death
12. Undetermined (micro-aneurysm or cryptic AVM rupture)	Subarachnoid or Intraventricular	——	Angiography	Sudden coma or death

JOSEPH M. GRAHAM, M.D. *and*
D. MITCHELL STINNETT, M.D., *Joplin*

First-Year Results of a New Coronary Bypass Program

In August, 1981, a new cardiovascular surgical program capable of advanced and complex cardiac, aortic and vascular reconstructive procedures was opened at the St. John's Regional Medical Center in Joplin, Mo. Areas served are southwest Missouri and neighboring portions of Arkansas, Oklahoma and Kansas. This is a report of the results of myocardial revascularization or coronary artery bypass (CAB) for coronary artery occlusive disease. In addition, an analysis of the determinants of operative mortality for residents in this area is presented in comparison to the recently published multi-institutional collaborative coronary artery surgery study (CASS).[1]

Material and Methods

This new cardiovascular and open heart surgical unit officially opened on Aug. 24, 1981. Since that date, the authors have performed a wide variety of cardiac and vascular reconstructive procedures to include single, double and triple valve replacement; repair of congenital heart defects; and resection of complex aneurysms of ascending, arch, and thoraco-abdominal aorta. From Aug. 24, 1981 to Oct. 12, 1982 (13.5 months), 227 cardiac and/or aortic reconstructive procedures were performed and required the use of total cardiopulmonary bypass. Included are 200 patients who had aortocoronary artery bypass for treatment of coronary artery occlusive disease. In 31 patients, CAB was combined with other major cardiac procedures. In nine patients, a redo coronary bypass procedure was performed. Isolated CAB was performed in 160 patients and comprises the study group for this analysis and report.

Among patients having isolated CAB were 113 men (70.6%) and 47 women (29.4%). The average age was 67.2 years, ranging from 32 to 79 years. Angina pectoris was present in all but two (1.3%) patients. Of New York Heart Association class III or IV, severity was present in 90%. Angina pectoris was unstable in 70.0% and acute myocardial infarction (documented by electrocardiogram [ECG] and cardiac enzymes) had occurred in 26 patients (13.1%). Two patients were in cardiogenic shock. Unstable angina was defined as a change in the pattern of chest pain within the previous two months characterized by bouts of chest pain lasting more than 30 minutes or requiring hospitalization in a coronary intensive care unit or a changing pattern of increasing intensity or duration. The presence of pain at rest (class IV) was not considered criteria for unstable angina since many patients had had rest angina or angina at night for several weeks or even months.

Previous myocardial infarction had occurred in 91 patients (56.9%). Diabetes mellitus was present in 28 patients (17.5%) and 88 patients (55.0%) were hypertensive. Two patients had complete renal failure and were receiving chronic hemodialysis. Type IV hyperlipidemia was identified in 13 patients, and ten patients had limiting chronic obstructive pulmonary disease.

An analysis of operative mortality following coronary artery bypass (CAB) in the new cardiovascular program in Joplin is presented in this article. During the first 13.5 months, 160 isolated CAB procedures were performed with an overall mortality of 3.75%.

Risk factors for operative mortality are evaluated and compared to those identified by the multi-institutional collaborative coronary artery study (CASS). Although the operative mortality for CAB in Joplin compares favorably to that reported by CASS and others, it is apparent that much higher-risk patients are being referred from southwest Missouri than are seen in many other large institutions in the United States and Canada.

The authors are from the Department of Surgery, St. John's Regional Medical Center.

Cardiac catheterization with coronary cineangiography and left ventriculography in the right anterior oblique position was accomplished in all 160 patients. Significant lesions (more than 50%) of the right, left anterior descending and circumflex coronary arteries (triple-vessel disease) were present in 81.8% of patients. Left main stenosis (more than 50%) was noted in 28.1% of patients. Left ventricular function was assessed by measurement of left ventricular end diastolic pressure (LVEDP) and ejection fraction (EF). The LVEDP was normal (0-12 mm/Hg) in 95 patients (59.4%), and the EF was more than 50% in 129 patients (80.6%).

All bypass procedures were performed utilizing total cardiopulmonary bypass. Myocardial protection during ischemic arrest was afforded by utilizing crystalloid potassium cardioplegia at 4° C. In addition, iced saline pericardial lavage (4° C) was performed in all patients. Systemic total body hypothermia (28° C) was utilized for patients with abnormal ventricular function. All bypass grafts were performed utilizing autogenous saphenous vein. Bypass grafts to 615 coronary arteries (average 3.84 per patient) were performed. Complete revascularization was accomplished in 94.2% of patients.

Associated surgical procedures are listed in Table 1. Intra-aortic counterpulsation balloon assistance (IABP) was utilized both pre- and postoperatively in two patients with acute myocardial infarction and cardiogenic shock. IABP insertion was utilized in five patients after failure to wean from cardiopulmonary bypass. Periaortic neurectomy was performed in addition to coronary bypass if severe angina and significant distal vessel disease were present.

TABLE 1
ASSOCIATED SURGICAL PROCEDURES

Insertion intra-aortic balloon	7
Permanent pacemaker	4
Periaortic neurectomy	13
Carotid endarterectomy	2
Resection abdominal aortic aneurysm	1

RESULTS

Six patients (3.75%) died within either 30 days after surgery or during the same hospitalization. Two of these patients had preoperative acute myocardial infarction and one was taken to the operating room in cardiogenic shock. Causes of operative death included left ventricular failure and low cardiac output syndrome in four patients, stroke in one patient, and rupture of an abdominal aortic aneurysm in one patient. Complications incurred during the hospitalization or attributable to the operative procedure are listed in Table 2. Perioperative myocardial infarction was defined as the development of Q waves or loss of R wave in the postoperative ECG.

TABLE 2
COMPLICATIONS ASSOCIATED WITH ISOLATED CORONARY ARTERY BYPASS 160 PATIENTS

	No.	*%*
Perioperative myocardial infarction	6	3.8
Bleeding	7	4.4
Stroke	4	2.5
Pulmonary insufficiency	6	3.8
Wound infection/cellulitis	6	3.8
Sternal dehiscence	2	1.3
Pulmonary embolus	3	1.9
Post-cardiotomy syndrome	5	3.1
Pancreatitis	1	0.6
Ruptured aortic aneurysm	1	0.6

DISCUSSION

Following a decade of debate, the indications for CAB are generally recognized and accepted. Although initially available at only a few large urban medical centers, many smaller cities and rural communities across the country now have access to local open heart surgical facilities. One of the more recent examples of this has been the opening of a cardiovascular unit at the St. John's Regional Medical Center in Joplin. As in most medical centers, the majority of open heart surgical procedures were for treatment of coronary artery occlusive disease and/or its complications. Of 227 open heart procedures performed in Joplin during the 14 months since the opening of the program, 70% have been isolated CAB and 18% have been bypass procedures combined with other major cardiac procedures.

Progressive decline in the operative mortality for CAB surgery has been reported over the last ten years.[2] Differences in reported operative mortality among institutions frequently are related to the relative lack or preponderance of clinical and angiographic predictors of operative mortality. In this study, a comparison is made between the incidence of such risk factors for operative mortality at this center and those published by the 15 medical centers in the United States and Canada participating in the collaborative study for CAB surgery (CASS). The operative mortality for isolated coronary artery bypass at this center was 3.75%. The overall mortality for CASS was 2.3% with individual mortality rates ranging from 0.3% to 6.4% among the participating institutions. Predictors of increased operative mortality were identified in 6,630 patients in the CASS group. Among the most decisive factors were advanced age, female sex, symptoms of severe or unstable angina, heart failure, the distribution of coronary artery lesions, and reduced left ventricular performance.

Advanced age has long been considered a risk factor for surgery. It, thus, is not surprising that the CASS report demonstrated a clear and impressive increase in operative mortality for CAB patients with advancing age. The operative mortality in CASS for patients aged 50 to 59 years tripled for those aged 60 to 69 and increased again for those over 70 years of age. A similar increased risk for CAB patients in Joplin was noted, but the proportion of elderly was markedly different (Table 3). Whereas only 3.4% of the 6,630 patients in CASS were more than 70 years of age, 20.6% of coronary bypass patients in Joplin were between 70 and 79 years of age. Similarly, 27.5% of the CASS group and 41.3% of Joplin patients ranged from 60 to 69 years of age. Thus, almost 62% of patients undergoing CAB in Joplin fell into this recognized category of higher operative risk.

Previous studies have identified the female sex as a risk factor for CAB surgery.[3] In the CASS report, a higher operative mortality for women was noted for each decade of life after ages 20 to 29. While the proportion of female patients in CASS was 16.0%, it was 29.4% among patients referred to Joplin for coronary bypass (Table 3).

A significant trend toward higher operative mortality with more disabling or unstable angina has previously been identified.[4] Although patients having acute myocardial infarction were not included in the CASS study, class IV and unstable angina pectoris were found to adversely influence operative survival. A similar result was noted in the Joplin CAB study, although 26 patients having acute or recent (less than one week) preoperative myocardial infarction also were included. In the CASS study, 29.8% of patients had class IV angina, while in Joplin 43.8% were noted to be in this higher risk sub-group (Table 4). In addition, while 41.4% of the CASS patients had unstable angina, 70.0% of patients in the Joplin series were similarly disabled.

Although a strong relationship exists between the number of diseased coronary arteries and survival in medically treated patients, the CASS and other studies found this to be only a minor determinant or predictor of operative mortality.[1] It is of interest to note, however, that 50.1% of patients

TABLE 3
AGE & SEX AS DETERMINANTS OF OPERATIVE MORTALITY

	CASS			Joplin		
	No. Patients	*% Total*	*Mortality %*	*No. Patients*	*% Total*	*Mortality %*
Sex						
Male	5,569	84.0	1.9	113	70.6	3.5
Female	1,061	16.0	4.5	47	29.4	4.3
Age						
20-49	1,760	26.5	1.3	25	15.6	0.0
50-59	2,826	42.6	1.6	36	22.5	0.0
60-69	1,817	27.5	3.7	66	41.3	3.0
70+	227	3.4	12.6	33	20.6	12.1

TABLE 4
SEVERITY OF ANGINA PECTORIS AS A DETERMINANT OF OPERATIVE MORTALITY

	CASS			Joplin		
	No. Patients	*% Total*	*Mortality %*	*No. Patients*	*% Total*	*Mortality %*
Angina						
None	477	7.2	1.3	2	1.3	0.0
Class I	248	3.7	2.4	3	1.9	0.0
II	1,390	21.0	1.4	11	0.9	0.0
III	2,541	38.3	1.8	74	46.3	1.4
IV	1,973	29.8	3.8	70	43.8	7.1
Unstable	2,748	41.4	3.5	112	70.0	4.5
Unstable + MI	0	0	—	26	13.1	7.7

TABLE 5

NUMBER OF DISEASED CORONARY ARTERIES AS A DETERMINANT OF OPERATIVE MORTALITY

		CASS			*Joplin*	
	No. Patients	*% Total*	*Mortality %*	*No. Patients*	*% Total*	*Mortality %*
No. Diseased Coronary Arteries						
One	1,213	18.5	1.4	6	3.8	0.0
Two	2,061	31.4	2.1	23	14.3	0.0
Three	3,290	50.1	2.8	131	81.9	4.6
Left main	1,013	15.4	3.7	45	28.1	0.0

TABLE 6

VENTRICULAR FUNCTION AS A DETERMINANT OF OPERATIVE MORTALITY

		CASS			*Joplin*	
	No. Patients	*% Total*	*Mortality %*	*No. Patients*	*% Total*	*Mortality %*
Ventricular Function						
EF > 50	3,913	77.9	1.9	129	80.5	3.1
40-49	707	14.1	3.1	15	9.4	0.0
30-39	297	5.9	1.7	10	6.3	10.0
20-29	92	1.8	4.4	6	3.8	16.7
< 20	15	0.3	6.7	0	—	—
LVEDP						
0-12	3,508	54.2	1.6	95	59.4	4.2
13-18	1,735	26.8	2.5	40	25.0	2.5
19-24	784	12.2	2.8	12	7.5	8.3
24	442	6.8	5.9	13	8.1	0.0

in the CASS group had triple-vessel disease as compared to 81.9% of those in the Joplin series (Table 5). Stenosis of the left main coronary artery in contradistinction has been strongly identified as affecting operative mortality.[1, 5] The incidence of this higher risk lesion in CASS was 15.4% of the surgical patients, while in the Joplin series 28.1% had significant left main coronary artery stenosis.

Reduced left ventricular function as measured by the ejection fraction and left ventricular end diastolic pressure has been well recognized as one of the most important risk factors for operative mortality.[1, 5] The results of the CASS study supported this finding, and it was observed that operative mortality steadily increased with worsening left ventricular function. In contrast to the relative incidence of other risk factors in the two studies, a comparison of ventricular function in patients in the CASS registry and patients having CAB in the Joplin series reveals the two groups to be quite similar (Table 6). Normal left ventricular function, as defined by EF greater than 50%, was noted in 77.9% of CASS patients and 80.5% of Joplin patients. Similarly, the incidence of normal LVEDP (0-12 mm/Hg) was 54.2% for CASS and 59.2% in Joplin.

The variability in operative mortality among the different sites participating in the CASS study and in Joplin can be attributed to various factors. Of prime importance, however, is the difference in patient selection for surgery. From this study, it has become apparent that more patients referred for coronary artery bypass grafting in this community are of higher risk for operative mortality than those seen at many of the sites participating in the CASS study. Such risk factors as female sex, advanced age, left main disease, and unstable angina were in most instances twice as frequent among Joplin patients as in the cumulative CASS experience.

No single explanation exists for the greater incidence of higher risk patients for operative mortality in this community. Possible factors include a greater willingness to accept higher-risk patients for surgery or a tendency on the part of referring physicians to send patients for surgery only after medical failure for treatment of angina rather than for prophylactic revascularization and prolongation of life. Although the operative mortality for CAB in Joplin compares favorably with that reported by CASS and others, it is apparent that it is

(Continued on page 209)

G. A. LOVE, M.D., H. A. FERRARI, M.D., G. W. N. EGGERS, Jr., M.D.,
GARY W. BLANCHARD, M.D., MORRIS HIATT, R.R.T. *and*
FRANKLIN L. MITCHELL, M.D., *Columbia*

Management of Flail Chest Using High Frequency Jet Ventilation

Case Report

THE PATIENT with combined flail chest and broncho-pleural fistula presents a major challenge to the physician responsible for care or therapy. Complications include pneumothorax, hemothorax, pneumonia, subcutaneous emphysema, large air leaks secondary to mechanical ventilation, mediastinal shift, the patient acceptance of controlled ventilation and management of pain.

Endotracheal intubation and/or tracheostomy, the placement of chest tubes and mechanical ventilation are integral parts of patient care with this injury. Sedatives and analgesics often must be administered in large doses to treat anxiety and pain from rib fractures, chest tube sites and the movement of the chest wall during mechanical ventilation. High pressures can interfere with the closure of broncho-pleural fistulae.

Broncho-pleural fistulae that persist require surgical closure in a patient whose physical status is associated with both increased surgical and anesthetic risk.

High frequency jet ventilators have become available recently for clinical use in the U.S.A. The pattern of airflow is altered in High Frequency Jet Ventilation (HFJV), producing adequate gas exchange while lowering peak as well as mean airway pressures.[1] Expiratory pause is eliminated, which produces a small amount of positive and expiratory pressure (PEEP)[2-4], usually 2.5-4.0 cm H_2O. Ventilation rate can be set from 50 to 150 breaths per minute on most commercially available jet ventilators. Since there is no expiratory pause, inspiratory time is modulated in conjunction with driving gas pressure, replacing tidal volume. Inspiratory time settings range from 20% to 70% of each ventilatory cycle. Driving gas pressure can be set from 0 to 50 psi. The actual settings chosen by the clinician will vary.[5]

The advantages of HFJV are decreased airway pressure and decreased chest wall movement that facilitate closure of broncho-pleural fistulae and increase patient comfort and tolerance of mechanical ventilation.[6] Increasing patient comfort often results in reduced doses and frequency of use of sedatives and analgesics. HFJV also facilitates pulmonary toilet by mobilizing endogenous material contained in the tracheo-bronchial tree.[7, 8]

CASE REPORT

A 70-year-old white man sustained injuries in a two-story fall, landing chest first on a large rock. The patient arrived in the emergency room with bilateral chest tubes in place; marked sternal and anterior chest flailing; subcutaneous air in the abdomen, chest and neck with a significant air leak; and tachypnea. Vital signs were systemic blood pressure, 160/85; pulse rate, 106/min; and respiration rate more than 40/min. Physical examination was significant for only the above findings. The patient was nasotracheally intubated, and mechanical ventilation was initiated with settings of tidal volume, 800 cc; rate, 20/min; and PEEP, 5 cm H_2O, $FiO_2 = 50$. Arterial blood gases shortly thereafter were pH $-$7.20 torr, pCO_2 39 torr, pO_2 59 torr, buffer base -12.

A chest x-ray showed multiple rib fractures and subcutaneous air, but minimal pneumothorax and no mediastinal shift.

Bronchoscopy was performed with no significant injury to the tracheobronchial tree being seen. The patient was then transferred to the intensive care unit and placed on a conventional ventilator with settings as described. Morphine sulfate 5 mg to 15 mg per hour by drip infusion was required for analgesia, and 1 mg to 2 mg of haloperidol (Haldol) were administered intravenously three times daily as needed for sedation. The pneumothorax on the left side became larger and a pneumothorax developed on the right side as well. The pneumothoraces persisted despite the addition of three more chest tubes.

Elective tracheostomy was performed to facilitate airway care during the long period of mechanical ventilation anticipated. Bronchoscopy was repeated, again with no tear found in the tracheo-bronchial tree. During the tracheostomy procedure, it was noted by the anesthesiologist that the transpulmonary leak necessitated a 16 liter/min flow rate to maintain adequate

The authors have found High Frequency Jet Ventilation (HFJV) to be valuable in the management of a patient with flail chest and bronchopleural fistulae. They suggest that HFJV may be of benefit in allowing bronchopleural fistulae to close by healing. As HFJV becomes more available, it might prove valuable when mobilization of secretions and maintenance of ventilation with decreased airway pressures are desired.

The authors are from the University of Missouri-Columbia Health Sciences Center where Dr. Love is a Senior Resident Physician in the Department of Anesthesiology; Dr. Ferrari is Professor of Anesthesiology and Director of Respiratory Therapy; Dr. Eggers is Professor and Chairman of the Department of Anesthesiology; Mr. Hiatt is Manager of the Respiratory Therapy Department; and Dr. Mitchell is Professor of Surgery and Director of Emergency/Trauma Services.

ventilation. In the intensive care unit, it was noted that the transpulmonary leak caused a loss of 25% to 50% of each tidal volume administered with a volume ventilator measured by the spirometer incorporated into the ventilator.

Over the next six weeks while in the intensive care unit, the patient also had purulent drainage via the chest tubes, tenacious dark sputum and febrile episodes. Cultures revealed growth of gram negative rods sensitive to ampicillin, and antimicrobial therapy was initiated. Subsequent to these events the decision to employ HFJV was made to (1) decrease chest wall movement, (2) decrease transpulmonary leak and (3) facilitate movement of pulmonary secretions.

Conventional ventilation with settings of tidal volume, 1,100 cc; rate (IMV mode) = 6/min; $FiO_2 = .50$ yielded the following ABGs: pH 7.44, $paCO_2$ 41 torr, paO_2 90 torr. Peak airway pressure was 45 cm H_2O; mean airway pressure was 18 cm H_2O. The patient was placed in HFJV with initial settings as follows: rate, 100/min; inspiratory time (IT), 40%; and operating gas pressure, (OP) 17 psi. Transfer from the volume ventilator to the HFJV was accomplished smoothly. The improvement in ventilation was such that the $FiO\text{-}_2$ was decreased to .40 within the first hour after placing the patient on HFJV. Subsequent ABGs were pH 7.48, $paCO_2$ 38 torr and paO_2 98 torr. Peak airway pressure was 12 cm H_2O with mean airway pressure = 8 cm H_2O. Transpulmonary leak was measured with a Wright Ventilometer attached to the water seal at the end of the chest tubes. Total transpulmonary leak steadily declined from approximately 9 liters/min to a minimal leak not measurable with the ventilometer within a 48-hour period. Arterial blood gases indicated acceptable oxygenation with paO_2 values ranging from 71-115 torr. Ventilation as monitored by $paCO_2$ was excellent with readings ranging from 28-41 torr.

Secretions produced and removed from the tracheostomy tube were copious, especially during the first hour of operation of the HFJV. Purulent material no longer was drawn out through the chest tubes, and x-ray evidence of pulmonary infiltrates resolved. In addition to these changes, the use of morphine and Haldol was dramatically reduced, and the patient communicated to the staff that he was able to sleep better. The patient also communicated that HFJV was less irritating to him while awake than with conventional ventilation.

Three days elapsed with the absence of measurable leak via the chest tubes. Regular checks of chest tube function indicated that chest tubes were patent and operational. Chest x-rays taken during this period revealed a small apical pneumothorax on the left side only. On the evening of the sixth consecutive day of HFJV, the patient experienced a protracted episode of emesis. The pneumothorax on the left side had rapidly expanded and severe subcutaneous emphysema developed. The patient was taken to the operating room for a left thoracotomy, closure of broncho-pleural fistulae, and pleurodesis. At operation, it was noted that the pulmonary tissue as well as the pleural space appeared to be very clean. The bronchopleural fistula on the left side was closed, and nonfunctioning chest tubes were replaced.

A volume ventilator was employed for postoperative ventilation as HFJV was no longer considered essential. The patient had an uneventful recovery and the tracheostomy site was closed. The patient was subsequently discharged from the hospital and is now at home doing well.

DISCUSSION

Bronchopleural fistulae, with or without flail chest, present a medical emergency that requires rapid diagnosis and preliminary management if the patient is to have a reasonable chance of survival. Rapid transport of the patient from the field to a facility with appropriate emergency room and intensive care facilities is essential. Once the patient has been stabilized in the intensive care unit, the selection of the best treatment modality for the individual patient is of paramount concern to the clinician. Surgical closure of bronchopleural fistula is not always the method of first choice. The presence of acute or antecedent cardiac, pulmonary, endocrine or nutritional disease heads the list of physical status factors that may cause the clinician to attempt conservative therapy first.

High Frequency Jet Ventilation offers the clinician a tool for the conservative management of the marginal patient with flail chest. Mobilization of pulmonary secretions helps to prevent or control infection within the lung. Decreased airway pressures mean less interference with cardiac output and better patient tolerance of mechanical ventilation. Rapid ventilatory rates allow greatly reduced tidal volumes that radically decrease chest wall movement that facilitates healing of pulmonary bone and soft tissue injuries. HFJV alters the flow pattern in the tracheo-bronchial tree, maintaining adequate ventilation at tidal volumes that are less than the anatomic dead-space volume. Conventional ventilators mimic natural ventilation by moving large volumes of gas in and out of the lung. HFJV, on the other hand, establishes a coaxial flow within the airway. Inspiratory gas moves down the center of the airway while expiratory gas and secretions move out along the periphery of the airway. The elimination of the expiratory pause means that airway pressure, while greatly reduced, never falls to 0 cm H_2O, so that a small amount of PEEP is present to prevent atelectasis. All of these features of HFJV aid in the management or prevention of problems encountered by the clinician in caring for the patient with flail chest.

While HFJV did not prevent the need for a surgical procedure in this patient, a marked decrease in the transpulmonary leak was demonstrated. Had the lung had more time to heal, the stress to the lung caused by protracted emesis and the subsequent failure of the chest tubes might have had little or no impact. In all other respects, the use of HFJV rapidly produced better results than conventional modes of therapy.

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New Coronary Bypass Program

(Continued from page 206)

difficult to compare operative mortality rates without also stating the incidence of well-recognized risk factors.

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In Memoriam

Charles H. Appleberry, M.D., 43 St. Joe St., Flat River 63601; graduate of Washington University, 1929; member of Mineral Area Medical Society; aged 80; died Jan. 11, 1984.

Merrill J. Roller, M.D., 1000 Country Club Dr., Hannibal 63401; graduate of the University of Kansas, 1943; member of Northeast Missouri County Medical Society; aged 66; died Feb. 5, 1984.

Thomas S. Fleming, M.D., 517 Fort St., Moberly 65270; graduate of St. Louis University, 1913; member of Chariton-Macon-Monroe-Randolph County Medical Society; aged 96; died Feb. 6, 1984.

George F. Wood, M.D., 1700 Plaza Dr., Fulton 65251; graduate of St. Louis University, 1937; member of Callaway County Medical Society; aged 81; died Feb. 17, 1984.

Garold V. Stryker, M.D., #1 Gulf Manor Dr., Venice, Fla. 33595; graduate of St. Louis University, 1923; member of St. Louis Metropolitan Medical Society; aged 87; died Feb. 26, 1984.

George E. Sanders, M.D., 617A Willow Dr., Lee's Summit 64063; graduate of the University of Kansas, 1942; member of Jackson County Medical Society; aged 70; died Feb. 28, 1984.

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President's Message

As Some of 'The Press' Perceives Medical Costs

The recent AMA Leadership Conference brought together participants in state and national medical societies to present the status of American medical costs, the problems and some proposed solutions.

Most of us are familiar with our state and even national assessment of medical care costs and physicians' proposals to reduce those costs. The views of medicine are well known, but it is healthy to review patient costs as perceived by other segments of society, specifically the press. Though these may be critical, it is important to examine these views without rejecting them out of hand. The Kennedy-Gephardt Bill, described by Mr. Evarts Graham, are convinced that overuse of hospitals is the greatest cause of "waste, fraud and abuse."

James M. Stokes, M.D.
St. Louis

Mr. Evarts Graham ed of the *St. Louis Post-Dispatch*, quoted the Bookings Institution's opinion that money saved by eliminating over-hospitalization might simply be transferred to HMOs without significant total reduction in medical costs.

Other noted columnists stated that the only way this country can cap costs is to ration medical care. . . .

The Kennedy-Gephardt Bill would arbitrarily put caps on hospitalization and would extend DRGs to physicians' fees.

A second view from the conservative writer, Mr. James J. Kilpatrick, quoted concerns about both hospitalization costs and physicians' costs from a psychiatric patient treated in another state. He sighted some perceptions of medical care in which "music therapy" and sessions of "occupational therapy" of a 2½-year-old child were $7,025.00 in hospital costs and $1,634.00 in physicians' fees. He recounted the rate of hospital costs per patient as per-year increases of 14.8% in 1981, 15.7% in 1982, and an estimate of $362 billion at the end of the current year plus a ten-year projection of $1,000,000,000,000. He cites the bottom cause as simply "the system" by which big bills are paid by some other "guys somewhere else," including industry, the insurance company or Medicare, and he indicated that it is the family who eventually pays. The important point is that these views by liberal and conservative writers are genuine causes for alarm whether physicians agree or disagree. It is essential to know this in order to advance better solutions in the interest of patients and medical professionals.

MSMA Auxiliary

Mrs. William McPhee of Kansas City Nominated President-Elect of the American Medical Association Auxiliary

Very few MSMA Auxiliary presidents have had the unique experience of serving in this office when a "native daughter" has been nominated President-Elect of the American Medical Association Auxiliary (AMAA). It has happened in Missouri only three times — twice in the first decade of the AMAA's recorded history (1929 and 1931) and more recently (1965) when Mrs. William Richard Sutter of St. Louis served as the national president.

Mrs. Richard Bowles
President

In late February, phones rang throughout the state and the word was spread. Mrs. William (Mary Kay) McPhee of Kansas City had received the word we all were so eagerly awaiting! The all powerful AMAA Nominating Committee, which is elected by the House of Delegates, had selected Mary Kay McPhee as their choice for AMAA President-Elect to assume the presidency in 1985-1986.

Personally, the elation I felt when I received this good news caused me to wonder if this might be the peak experience of my own presidential tenure. Mary Kay's honor reflects on the Missouri State Medical Association as well as its Auxiliary. Her home town and Clay-Platte County Auxiliary will also bask in her glory. There will be receptions and gifts to give tangible evidence of our good wishes for her.

The MSMA Auxiliary had anticipated the possibility of this event late last year and had contacted the MSMA Council to seek guidance and support. The MSMA responded with a glowing letter of endorsement to her and to the American Medical Association Auxiliary in addition to including financial provision in the Medical Association budget for appropriate activities to be held at the annual AMA Auxiliary Convention in June.

Our Auxiliary is very grateful to the Medical Association for this enthusiastic support that was duly noted, I am sure, by the AMAA Nominating Committee during its deliberations. Individual MSMA members also have been vocal in their acceptance and appreciation of this honor to Missouri. Auxiliary members have been delighted.

Rarely does an auxiliary member come into the national picture who is so perfectly suited for this assignment and honor as "our" Mary Kay. Her qualifications are exemplary. Traditionally, the AMA Auxiliary president is expected to be intelligent, knowledgeable, friendly and attractive. She must possess tremendous leadership skills and the ability to express ideas well and to motivate action. I have noted that she also needs to be strong enough physically to endure strenuous traveling and speaking schedules, which in the past have even included an invitation to the White House. Mary Kay possesses all of these qualities plus many more. She has served in many offices on the national level. We commend and thank the AMAA Nominating Committee for recognizing her outstanding performance of these past duties.

Missouri is proud to share with the AMA Auxiliary and its 80,000 members a woman and Missouri member whom we respect and love. We wish Mary Kay great success and much happiness in this important national endeavor.

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Special Article

Facts and A Story

By
Wilfred E. Wooldridge, M.D.
Springfield

For many years, I have preached two persistent themes about our medical profession, often to the dismay of those who wanted to believe that everything was fine and it would only get better. The first theme was that we physicians were increasingly occupied with the business of medicine and decreasingly with its human aspect. The second theme was that ever-escalating third-party involvement would inevitably subject us to ever-increasing third-party control.

Such conclusions do not require a prophet or a crystal ball; only a knowledge of history, which assures one that this would happen because it has always happened that way.

Right or wrong, these ideas have never been warmly received by some. In 1974, on the Guest Lecture Series of the School of Medicine of New York University, I said, "At this time, we still have the public with us. That provides us with an umbrella of protection and esteem that is invaluable, but we will lose this if we forget that our first concern must be a human one, not an economic one." At that, some of the residents in the audience abruptly departed.

At the meeting of the Missouri State Medical Association, in 1982, I said, ". . . the ace card held by the physician is that the patient has entrusted him with his or her health. That is an extremely personal association and a trust that can only be repaid by the doctor when he extends a genuine concern." That remark caused one of my friends to comment that I might have arrived at the meeting in a horse and buggy.

Again, in Kansas City, in October, 1982, I said, "First of all, we are treating human beings and if the concern of either the hospital or the physician is overridden by thinking of ourselves as a business, we are inviting disaster because that attitude will instinctively reach the patient." Following that address, I was accused of being vindictive and my wife was accosted by a lady in the audience who did not choose to come to me but who held that I had insulted her husband by that remark. I really can't think why unless the remark struck home.

But the public may not be with us any longer. Through influence exerted upon the public, day by day, as well as by ourselves, a very large survey conducted by the American Association of Retired Persons and publicized in January, 1983 revealed that 81% of those polled thought that the cost of medical care was excessive and that it should be mandatorially contained. I realize the flaws in such surveys, but that should provide cause for pause. It creates legislation.

By making those statements, I never implied that we can become fiscally sloppy in medical practice. The rigors of state and federal regulation are with us and, like everyone else, we must live with them.

Now the story! It all came about by accident recently when a proctologist told me a tale that has some curious parallels with what I have stated above. He had just read an article that proposed an idea, as though it were new. This article stated that fecal material remaining on the anal skin was the chief cause of pruritus ani. That statement made him remember that his father, a very good general practitioner, believed the same thing and said so in the 1930s.

One day, the father was visited by a patient who complained of furious anal itching, so severe

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In this article, opinions are expressed concerning the socio-medical state of the medical profession in today's United States' society. This state is related to a medical anecdote thought to show some parallel significance.

Dr. Wooldridge is Clinical Professor Emeritus, Department of Medicine, Section of Dermatology, University of Missouri-Columbia School of Medicine and a former editor of Missouri Medicine. He is in the private practice of dermatology.

he could hardly sleep. The doctor explained a routine that, if followed religiously, would likely make him comfortable again. He said the anal area must be gently washed prior to defecation and then coated with white vaseline. After defecation, the area was to be carefully wiped, then washed again.

"But," the patient protested, "that's a lot of trouble. Must I continue doing that after the itching stops? I don't like to think of that for the rest of my life."

My friend said his father looked quietly at the man for a few monents. Then the corners of his mouth turned up in a faint smile.

"Whose ass burns," he asked.

And translating at least some of that into our own medical quandary, with DRGs for hospitals a reality, DRGs for physician's just around the corner and with other, even more stringent regulation sure to follow, we might very well ask ourselves, "Whose asses burn?"

Why, our own, of course. It's sure not going to be business as usual, but we might consider our own contributions to this problem. If we do, we might even have a little something to say about what happens, if it's not already too late.

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COURSE DIRECTOR: Francis E. O'Donnell, Jr., M.D.

MAIN TOPICS: ECCE vs ICCE, Anterior Capsulotomy, Nucleus Expression Cortical Aspiration, Management of Vitreous Loss-Vitreous cutters for the anterior segment surgeon, Posterior Chamber Lens Implantation: Selection & Placement, Posterior Capsulotomy, Post Operative Care: Late Complications of Posterior Chamber Lenses, YAG Laser Capsulotomy: Anterior & Posterior.

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ADDITIONAL INFORMATION: Rosemary Fisher, Bethesda Eye Institute, Ophthalmology Department, 3655 Vista Ave., St. Louis, MO 63110. TEL: (314) 772-9200, extension 2390.

Mrs. Richard P. Bowles Elected MSMA Auxiliary President

Mrs. Richard P. Bowles, Liberty, was elected President of the Missouri State Medical Association Auxiliary at its annual convention at Marriott's Pavilion Hotel in St. Louis on March 29-31.

Mrs. Bowles, whose monthly message to members of the MSMA will appear regularly in Missouri Medicine, received her degree in psychology at William Jewell College in Liberty and was valedictorian of both her high school and college classes. She has since taken graduate work in counseling at the University of Missouri-Kansas City.

Mrs. Bowles was President-Elect of the MSMA Auxiliary in 1983-1984 and has served in numerous other capacities in both the state auxiliary and Clay-Platte County Medical Auxiliary, including the presidency. She is equally interested in the AMA Auxiliary.

Her interest in civic and community affairs is exemplified by the fact that she is one of only three women ever to receive the "Key to the City of Liberty." She has worked with the "Meals on Wheels" program in Liberty since its inception and is now secretary of the Board of Directors.

She has always maintained her interest in William Jewell College and the schools of Liberty. Chosen as Miss Alumna of William Jewell College in 1965, she has cooperated in organizing and serving as the first president of the Woman's Committee of the College, served as secretary and was a member of the group requested to organize a Parents' Association and is a past member of the College's Alumni Board of Governors and has served on the Executive Board of that organization.

Mrs. Bowles has served as president of the Liberty High School PTA and in various other capacities when requested.

A member of the Second Baptist Church in Liberty, she taught the high school girls' Sunday School Class for many years and has been president of the Baptist Women and director of the Women's Missionary Union. She also is presently involved as sponsor/advisor of the College Christian Women on the William Jewell Campus.

Among other organizations, she is a member of the Liberty Hospital Auxiliary and the PEO.

Dr. Bowles is in family practice in Liberty and serves as a MSMA Delegate to the American Medical Association. They are the parents of four children: Dick, Jr., a resident in family practice at the University of Pennsylvania Hospital in Hershey; Charles, a resident in the University of Colorado Radiology Department in Denver; Barry, who is finishing his four years of training in optometry in Los Angeles, Calif.; and Mark, a second-year student at the University of Missouri-Columbia School of Medicine. Two daughters-in-law and a granddaughter complete the family.

Mrs. Bowles has stated that she enjoys joining "her menfolk" in many of their activities such as boating, camping, canoeing and skiing.

Other MSMA Auxiliary officers for 1984-1985 are Mrs. George Bohigian, St. Louis, president-elect; Mrs. Stephen Vilmer, Overland Park, Kan., first vice-president; Mrs. John Mitchell, Kansas City, second vice-president; Mrs. Gary Dyer, St. Joseph, third vice-president; Mrs. Charles Barbee, Columbia, fourth vice-president; Mrs. Thomas Anderson, Columbia, recording secretary; Mrs. James Shaw, Hermann, Treasurer; and Mrs. Gilbert Ross, Columbia, auditor.

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MSMA Members Receive Physician's Recognition Award

Ninety-two MSMA members qualified for the MSMA-AMA Physician's Recognition Award in February, 1984.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

Nancy L. Abdou, Kansas City
Nusrat J. Ahmad, St. Louis
Saad M. Al-Shathir, Joplin
Bernardo G. Aleksander, St. Louis
James H. Allen, Florissant
Herbert M. Arnold, Lamar
Lowry K. Arnold, Kansas City
Angela Arroyo-Villanueva, Kansas City
Howard J. Aylward, St. Louis
Hector D. Barragan, Kirkwood
Carol T. Berner, Springfield
Paul T. Berry, Springfield
Curtis H. Bourgeois, Columbia
Stanley N. Brand, Kansas City
Elwyn S. Brown, Kansas City
James Brown, Blue Springs
Donald E. Callahan, St. Louis
Jo J. Callaway, Kansas City
Alexandre Carli, Washington
James E. Carter, Kansas City
David O. Catron, Dexter
Sherman W. Cole, Kansas City
Julian R. Comer, Hannibal
James C. Corder, St. Louis
Robert L. Corder, St. Joseph
Stephen R. Crespin, St. Louis
Carey M. Delcau, St. Louis
Eileen Duggan, Kansas City
Robert E. Dunshee, Maryville
Monaford D. Durnell, Kansas City
Lawrence L. Evans, Kansas City
Edduyn A. Figueroa, St. Louis
James K. Fisher, Kansas City
Virginia L. Fogerson, Springfield
Albert L. Folkner, Warrensburg
Donald E. Frein, Harrisonville
Paul L. Friedman, St. Louis
Jim D. Frogge, Joplin
James H. Garner, Kansas City
Jad M. Gennaoui, St. Louis
Michael A. Gentry, Springfield
Sangwill L. Gernstetter, Poplar Bluff
Norman A. Ginsberg, Kansas City
Joseph C. Gottsch, Kansas City
Robert T. Hall, Kansas City
John W. Hardy, Kansas City
Josef Hazan, St. Louis
Barry A. Hiatt, St. Louis
Parimal K. Hor, Fulton
Robijn K. Hornstra, Kansas City
Grant Ismirlian, St. Louis
C. Laurence Johnson, Kansas City
Nicola Y. Katf, North Kansas City
James S. Key, Springfield
Ireland W. Kimball, Parkville
Jay T. King, Kansas City
Carl R. Kruse, Palmyra
Gregg R. Laiben, Independence
Raymond W. Latham, Kansas City
Soo-Ja Lee, Fulton
Joseph M. Lichtor, Kansas City
Jose A. Lima, St. Louis
Charles M. Linsenmeyer, St. Charles
Howard E. Linville, Kansas City
Richard H. Loeb, Springfield
Alexander G. Mallouk, Kansas City
Joseph M. Masucci, Kansas City
Paul W. Meyer, Kansas City
Phillip L. Monroe, Marshall
Arturo H. Montellano, Monett
Benedict A. Moranville, Columbia
George C. Olive, Neosho
Roger M. Oskvig, St. Joseph
Mark D. Ost, Kansas City
Frank Paletta, St. Louis
Leonard N. Piccione, Bridgeton
Perry G. Rawson, Washington
George A. Richardson, Union
Charles T. Riley, Richmond
Manuel W. Runez, Maryville
Robert K. Skillman, Kansas City
Robert V. Spake, Kansas City
David L. Spalding, Springfield
William P. Thorpe, Cape Girardeau
Robert W. Tichenor, St. Louis
William A. Turner, Nevada
Robert P. Wankum, Jefferson City
Charles L. Weinstein, Kansas City
Jean B. Willoughby, Kansas City
Henry C. Willumsen, St. Joseph
Thomas O. Wood, Poplar Bluff
Dieter H. Wurr, Arnold

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
***Contact:* Joy W. Barnett, CME Coordinator**

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

Apr. 17-18	Seventh Annual Primary Pediatrics for the Primary Physician
Apr. 27-28	Third Annual Clinical Conference on Arthritis
May 11-13	Seventh Annual Missouri Cardiovascular Conference (Tan-Tar-A, Osage Beach)
July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
***Contact:* Mrs. Judi Kramer, Coordinator**

May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

St. Luke's Hospital of Kansas City
Wornall Rd. at 44th, Kansas City 64111
(816) 932-2220
***Contact:* The Center for Continuing Education**

May 10-12	Fourth Annual Symposium on Advanced Heart Disease

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
***Contact:* Richard C. Barry, M.D.**

June 13-15	Symposium: Identification and Practical Approach to Evaluation and Management of Pediatric Emergencies (Tan-Tar-A Resort, Lake of the Ozarks)

Menorah Medical Center
4949 Rockhill Rd., Kansas City 64110
(816) 276-8000

May 10-11	Conference: Lasers in Medical Practice Breckenridge Inn (at Executive Park), Kansas City

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University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

May 10-11	Surgical Problems — The Old and The New (Westin Crown Center Hotel)
May 18-19	The Long Weekend (Alameda Plaza Hotel)
May 25-26	International Symposium on Trauma to the Facial Skeleton (Westin Crown Center Hotel)
June 2	Symposium on Physical Fitness (Westin Crown Center Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Apr. 26-27	11th Annual Symposium on Obstetrics and Gynecology
May 3-5	WUMC Alumni Reunion
May 11-12	PNP Update 1984
May 21-25	Diagnostic Interview Schedule Training
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage

Ellis Fischel State Cancer Center
115 Business Loop 70 West, Columbia 65201
(314) 875-2100, Ext. 398
***Contact:* Janis Gentile**

May 11-12	Cancer Update Symposium: Current Concepts of Chemotherapy

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
***Contact:* Anita Herbst**

May 23	Sixth Annual Poisoning Seminar St. Louis Poison Center (Location pending)
June 2	ECCE & PCL Workshop of Ophthalmologists

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 367-2131
Contact: Ronald G. Evens, M.D., Director

May 14	City-Wide Radiology Conference on "Angiography and Embolization of Pelvic and Extremity Trauma" (Mallinckrodt Institute, St. Louis)

B.A.S.H., Inc.
522 N. New Ballas Rd., Suite 206
St. Louis 63141
(314) 567-4080
Contact: Felix E. F. Larocca, M.D.

Apr. 28	Second Bash Conference on Eating Disorders (Saint John's Mercy Medical Center)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
Contact: Jan Johnston, Promoter Coordinator

Apr. 19-20	Ventilation/Perfusion and Gas Exchanges: A Physiologic Approach (Granada Royale Hometel, Kansas City)
Apr. 24-25	Tenth Annual Postgraduate Family Practice Symposium
Apr. 26-27	Advanced Trauma Life Support
Apr. 27	29th Annual Infectious Diseases Symposium
Apr. 27-29	34th Annual Postgraduate Symposium on Anesthesiology
May 7-8	Total Management of the Acute Myocardial Infarction
May 10-12	Musculoskeletal Tumor Society Meeting (Alameda Plaza Hotel, Kansas City)
May 14-15	Pediatric Emergencies
May 17-19	Extracapsular Cataract Extraction — Implantation of Intraocular Lenses
May 21-22	Early Breast Cancer
May 24-25	Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 7-8	Advanced Trauma Life Support
July 26-27	Advanced Trauma Life Support

Missouri Chapter, American College of Surgeons
P.O. Box 4562, Springfield 65808
(417) 882-7390 or (417) 887-1970
Contact: Linda Wheelen Executive Secretary

June 8-9	1984 Annual Professional Meeting (Clarion Hotel, St. Louis)

Mid-Central States Orthopaedic Society, Inc. and Missouri State Orthopaedic Association
c/o 9 Laurel Dr., Wichita, KS 67206
(316) 684-6436
Contact: Rhoda Singleton, Executive Secretary

June 1-3	Annual Meeting (Lodge of the Four Seasons, Lake of the Ozarks)

Ellis Fischel State Cancer Center
CANCER UPDATE SYMPOSIUM
"Current Concepts of Chemotherapy"
May 11 and 12, 1984

This symposium is approved for continuing education credit hours for medical doctors (Category I), osteopathic physicians and nurses.

Friday, May 11, 1984 —
Tiger Hotel, 23 South 8th, Columbia

6:00-7:00 PM	Registration and Reception
7:00-9:00 PM	Presentation of Papers (Invited papers from Residents and Fellows; award to be given for the best paper.)

Saturday, May 12, 1984 — Ellis Fischel State Cancer Center, Garth and Business Loop 70, Columbia

Morning Session — Keynote Addresses

8:00-8:40 AM	Registration and Exhibits
8:40-9:00 AM	Welcome — Ronald Vincent, M.D., Center Director Introduction — Oscar Guerra, D.D.S., Chief of Staff
9:00-9:40 AM	"Chemotherapy of Breast Cancer" Michael Freidman, M.D., National Cancer Institute
9:40-10:20 AM	"Treatment of Acute Non-lymphocytic Leukemia" Jerry P. Lewis, M.D., University of California-Davis
10:20-10:40 AM	Break and Exhibits
10:40-11:20 AM	"Chemotherapy of Testicular Cancer" Lawrence Einhorn, M.D., Indiana University-Indianapolis
11:20-12:00 Noon	"The Real Statistics in Cancer Treatment" Thomas Pajak, Ph.D., Radiation Therapy Oncology Group
12:00-1:00 PM	Lunch and Exhibits

Afternoon Session — Consists of two subsessions, with one-half hour presentations simultaneously from 1:00-4:30 PM

Subsession A	Seventh Floor Conference Room
Subsession B	First Floor Conference Room

Registration fees:

Physician/ Dentist	Friday only, $25; Saturday only, $75; Friday and Saturday, $80
RN/Other Professional	Friday only, $10; Saturday only, $25; Friday and Saturday, $30
Student	Friday only, $5; Saturday only, $5; Friday and Saturday, $10

For information and registration, please contact:

Janice Gentile
Ellis Fischel State Cancer Center
115 Business Loop 70, West
Columbia, Missouri 65201
(314) 875-2100, ext. 398

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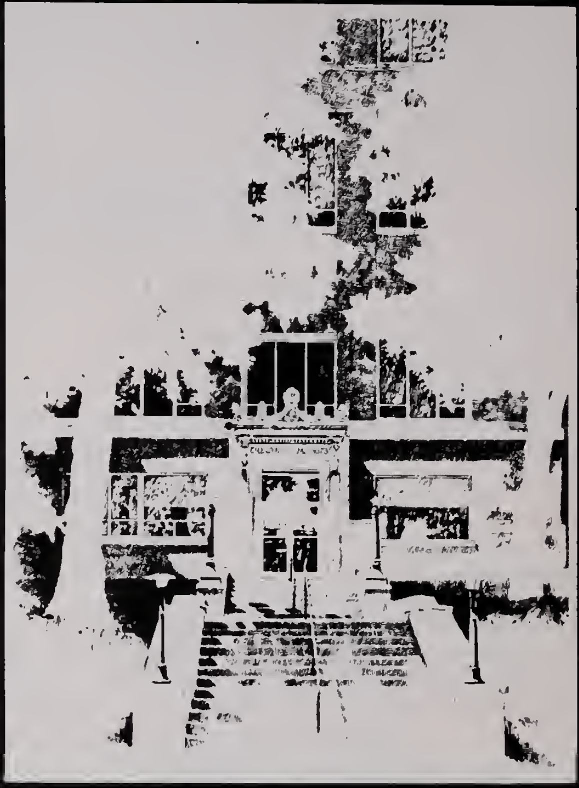

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NEWS From the Medical Schools

WASHINGTON UNIVERSITY

Paul R. Manske, M.D., has been named the first Fred C. Reynolds Professor of Orthopedic Surgery at the School of Medicine.

Dr. Manske is chief of the Division of Orthopedic Surgery in the Department of Surgery.

The endowed chair was established five years ago in honor of *Fred C. Reynolds*, M.D., professor emeritus of orthopedic surgery and long-time physician for the St. Louis Football Cardinals. Dr. Reynolds is internationally recognized for his contributions to orthopedic surgery and to sports medicine. He was a faculty member at Washington University for more than 30 years and chairman of the Division of Orthopedic Surgery for 12 years. During that time, he held appointments at Barnes and Children's hospitals, as well as other hospitals affiliated with the medical center. He was a member of many professional organizations, serving as president of both the American Academy of Orthopaedic Surgeons and the American Board of Orthopaedic Surgery.

Principal donors of the chair are the St. Louis Football Cardinals, Anheuser-Busch Charitable Trust, Mr. and Mrs. John G. Burton, John M. Olin and the National Football League Charities, Inc., as well as numerous friends and former patients of Dr. Reynolds. The endowment provides perpetual income for the Division of Orthopedic Surgery.

Dr. Manske was appointed chief of the medical school's Division of Orthopedic Surgery in June 1983. He serves as chief orthopedic surgeon at Barnes Hospital and as a staff physician at Children's and Jewish hospitals, all sponsoring institutions of the Washington University Medical Center. He is also on staff at Shriners Hospital for Crippled Children, County Hospital and John Cochran Veterans Administration Hospital. His research specialization is in hand surgery.

A 1964 graduate of Washington University School of Medicine, Manske took his postgraduate surgical training at the University of Washington in Seattle. He held a residency in orthopedic surgery at Barnes Hospital, and a special six-month fellowship in hand surgery with Harold Kleinert, M.D., at the University of Louisville. He joined the Washington University faculty in 1972 as an instructor in orthopedic surgery and became assistant professor in 1976, directing the training of residents in orthopedic surgery.

He established a private orthopedic surgery practice in 1979 in South St. Louis County, joining the staffs of St. Anthony's, St. Joseph's, and Missouri Baptist hospitals. Also in 1979, he became research assistant professor of pediatric surgery at Washington University.

John A. Pierce, M.D., will hold the First Selma and Herman Seldin Professorship of Medicine in Pulmonary Diseases at the School of Medicine.

Dr. Pierce is an internationally recognized authority on the development of emphysema and head of the pulmonary disease division of the Department of Medicine. He holds appointments as physician at Barnes and Children's hospitals, sponsoring institutions of the Washington University Medical Center.

The Seldin family's $1 million pledge to Washington University will support the salary and programs of the director of the pulmonary medicine division. Mrs. Seldin and other family members presented the first of four annual gifts of $250,000 recently during a ceremony installing Pierce as the Seldin Professor.

The gift is part of the Alliance for Washington University, a program to raise $300 million in support by the end of 1987. To date, more than $150 million in gifts and commitments have been received.

Dr. Pierce has been at Washington University since 1967, when he joined the faculty as an associate professor of medicine, chief of the Pulmonary Division of the Department of Medicine and chief of the Pulmonary Disease Division of John Cochran Veterans Administration Hospital. He was named professor of medicine in 1972.

He received his M.D. degree from the University of Arkansas School of Medicine, served his internship and residency in the U.S. Public Health Service, and was Professor of Medicine at the University of Arkansas Medical Center in Little Rock before coming here.

Renowned scientists from throughout the United States and Europe were speakers at the first annual Symposium on Molecular Basis of

Disease held at the School of Medicine recently.

Symposium participants discussed hormone receptors, growth factors and oncogenes. The conference was sponsored by the Departments of Medicine and Biological Chemistry and the Division of Biology and Biomedical Sciences.

Guest speakers represented the National Institutes of Health, the International Embryological Institute in the Netherlands, the Imperial Cancer Research Fund Laboratory in London, and a number of universities and research organizations in the United States.

In conjunction with the symposium, the Department of Biological Chemistry presented its 26th Shaffer Lecture. This year's lecture, "Actions and Interactions of Protein Kinases," was delivered by *Edwin G. Krebs*, M.D., of the Pharmacology Department at the University of Washington in Seattle.

The lecture honors *Philip Anderson Shaffer*, Ph.D., who served 50 years on the School of Medicine faculty before his death in 1960. He was appointed professor of biochemistry in 1910, and named distinguished service professor emeritus and lecturer in 1951. From 1915 to 1919 and from 1937 to 1946, Dr. Shaffer served as dean of the School of Medicine.

ST. LOUIS UNIVERSITY

A *J. Gerard Mudd Lectureship* has been established to acknowledge Dr. Mudd's dedication and meritorious service to the St. Louis University Medical Center. The first lecture was delivered by *Leonard A. Cobb*, M.D., professor of medicine, University of Washington.

A leading expert in sudden cardiac death syndrome, Dr. Cobb's lecture was titled "Therapeutic Implications of the Sudden Cardiac Death Syndrome." Dr. Cobb was appointed to several national committees including the U.S.-U.S.S.R. Cooperative Health Program on Cardiovascular Disease. He has published more than 60 research papers on sudden death.

The lecture is named in honor of J. Gerard Mudd, M.D. for his more than 30 years of service to the St. Louis University Medical Center. Dr. Mudd is presently associate director of the cardiac catheterizaton laboratory and professor of internal medicine at the School of Medicine.

As a 1945 graduate of St. Louis University School of Medicine, Dr. Mudd returned to St. Louis after a year as a cardiology fellow at The Johns Hopkins University where he studied what was then a new procedure, cardiac catheterization. In 1951, Dr. Mudd opened the first cardiac catheterization laboratory in St. Louis at the Medical Center. Under his direction, the unit progressed and currently performs more than 3,000 cardiac catheterizations per year.

George Thoma, M.D. vice-president for the Medical Center, has been appointed to the national Board of Governors of the Alexian Brothers Health System. He is the fourth lay person to be named to the parent board of the national Catholic health system.

Dr. Thoma also is professor of internal medicine at the School of Medicine and serves on the President's Cabinet for St. Louis University. Active in the Missouri State Medical Association and the American Medical Association, Dr. Thoma is a member of the AMA Association's Council on Medical Education and a member of that committee's Executive Committee.

Other members of the Board of Governors who are not in the Alexian Brothers religious order are *Jerry Capizzim*, president of CAP Enterprises in Chicago; *John Devereaux Thompson*, professor of public health and director of the hospital administration program at Yale University School of Medicine; and *Jack Wood*, chairman of Wood, Lucksinger and Epstein, a law firm in Houston.

James Grace, a fourth-year medical student, has been awarded the Dr. Matt Weiss Humanitarian Award. The $2,000 award is given in memory of Dr. Weiss, a St. Louis School of Medicine alumnus and a 35-year faculty member of the School. Dr. Weiss was known for his warm, humanitarian approach to his patients. Mr. Grace was selected to receive the award due to Mr. Grace's "compassionate approach to patients." Mr. Grace intends to enter an orthopedic surgery residency following his graduation.

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Richard L. Schilsky, assistant professor and acting director of the Division of Hematology and Medical Oncology, has received a 1983 clinical junior faculty fellowship from the American Cancer Society. Dr. Schilsky also received the Outstanding Teacher of the Year award in the Department of Medicine. In addition, he has been elected to fellowship in the American College of Physicians.

Dr. Mary S. Muscato, assistant professor of hematology and medical oncology in the Department of Medicine, has been elected to membership in the American Society of Clinical Oncology.

Dr. Karl D. Nolph, professor and director of the Nephrology Division in the Department of Medicine, chaired the Fourth National Conference on Continuous Ambulatory Peritoneal Dialysis (CAPD) on February 8-10 in Kansas City.

Dr. Brent Parker, professor, is the new director of the Division of Cardiology in the Department of Medicine. He replaces *Dr. Richard Martin* who is now in private practice in Little Rock, Ark.

Dr. James Dexter, professor and chair of the Department of Neurology and director of the Clinical Neurophysiology Laboratory, has expanded the laboratory to include a sleep disorders program and a Clinical Sleep Laboratory. In addition, a new Sleep Studies Clinic is held one-half day each week in the department's outpatient clinic.

Dr. Lynette Feeney-Burns, professor of ophthalmology, participated on a 20-member panel on the pathogenesis of drusen, chemical deposits under the retina associated with the loss of central vision, and its complications.

Dr. Leonard R. Forte, professor of pharmacology, and *Dr. David B. Bylund*, associate professor of pharmacology, have received first-year support of $69,868 for their research project entitled, "Renal Adenylate Cyclase: Regulatory Mechanisms," from the Department of Health and Human Services, National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases-Endocrinology Research Program.

Dr. Robert G. Frank, assistant professor of physical medicine and rehabilitation, presented a paper on "Coping Locus of Control and Depression Following Spinal Cord Injury" at the American Psychological Association meeting in Anaheim, Calif.

Dr. Douglas M. Griggs, professor of physiology and interim associate dean of research at the School of Medicine, presented a paper on "Regulation of Coronary Blood Flow in the Underperfused Ventricle" at a meeting of the International Society for Heart Research at Hilton Head, S.C. Dr. Griggs spoke on "Is There Significant Resting Alpha-Adrenergic Coronary Vasoconstrictor Tone? — No" at the annual meeting of the American Physiological Society in Honolulu, Hawaii. *Dr. Travis E. Solomon*, professor of physiology, presented a paper at the same meeting. He also participated in a symposium on "Integration of Intestinal and Pancreatic Function" at the 29th Congress of the International Union of Physiological Sciences in Australia.

UNIVERSITY OF MISSOURI-KANSAS CITY

Dr. DeFeo

Frederick G. DeFeo, M.D., assistant professor and docent at the School of Medicine, recently was appointed Section Chief of General Internal Medicine at Truman Medical Center. Dr. DeFeo has done pharmacology-toxicology, computer programming research for the Department of Pharmacology, CATS System at the University of Kansas Medical Center and has published articles in the area of radiation research.

Dr. Gibbs

Harry R. Gibbs, M.D., assistant professor of medicine and docent at the School of Medicine, has been appointed Section Chief of Cardiology at Truman Medical Center. Prior to joining the School, Dr. Gibbs held various posts with the Department of Internal Medicine at Wright Air Force Base, Dayton, Ohio.

William G. Barnes, Ph.D., recently was appointed director of microbiology at Truman Medical Center (TMC). Prior to joining TMC, Dr. Barnes was associate professor of pathology at the University of Kansas College of Health Sciences. Dr. Barnes has published extensively in his field and is a member of various professional organizations, including the American Academy for Microbiology, the American Society for Microbiology and the Medical Mycological Society of the Americas.

Dean Harry S. Jonas, M.D., recently announced plans to restructure the Office of the Dean at the School of Medicine. He also announced several administrative changes occurring as a result of the reorganization. Effective on March 3, *James L. Soward* assumed the post of acting director of administration, succeeding former director *Russell G. Jones, Jr.*, who has moved to Truman Medical Center as associate executive director. Mr. Soward is a longtime employee of the School and has served as director of the School's Office of Educational Resources since 1978. Prior to that he served in several planning and administrative capacities dating back to 1969. *Mr. Harold M. Glazer* was named acting director of the educational resources unit. Mr. Glazer has been responsible for biomedical television activity at the School since 1974.

Dean Jonas also announced the appointment of *Ms. Marilyn McGuyre* as director of the Office of Medical Education. Ms. McGuyre formerly was associate director and is also a longtime employee of the School.

Over the next several months, Dean Jonas plans to begin an active recruitment process for the unfilled position of associate dean for academic affairs.

David M. Irby, Ph.D., visited the School of Medicine on March 8-9 as medical education consultant. Dr. Irby, University of Washington School of Medicine, presented several workshops for faculty, including "How to Teach Effectively in a Clinical Setting" and "How to Provide Clinical Supervision."

The UMKC School of Medicine's 1984 commencement activities will include a senior banquet on May 29 and an alumni banquet on May 31.

Commencement will be at 4 PM on June 1 in the Helen F. Spencer Center for the Performing Arts on UMKC's main campus.

The Third Annual Carl Migliazzo Lecture will be delivered at noon on commencement day by *Homer C. Wadsworth*. Mr. Wadsworth is former executive director of the Cleveland Foundation and also has served as executive director of the Kansas City Association of Trusts and Foundations.

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Introducing Our New MSMA Members

Pasquale J. Accardo, M.D., 1465 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Accardo is a native of Brooklyn, N.Y., received his preliminary education at St. John's University and his M.D. degree at S.U.N.Y Downstate in 1969. He specializes in pediatrics.

Sam L. Alexander, M.D., Maries County Clinic, Vienna 65582, has become a member of Cole County Medical Society. Dr. Alexander is a native of Waynesville, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1982. He is in general practice.

Daniel B. Bauwens, M.D., 5505 Delmar Blvd., St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Bauwens is a native of Omaha, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at Washington University in 1975. He specializes in internal medicine.

Thomas S. Cunningham, D.O., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Cunningham is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his D.O. degree at the University of Health Science in 1982. He specializes in internal medicine.

Michael D. Curry, M.D., 2703 Clark La., Columbia 65201, has become a member of Boone County Medical Society. Dr. Curry is a native of Pryor, Okla., received his preliminary education at Northeastern University and his M.D. degree at the University of Oklahoma in 1980. He specializes in pathology.

Doug Eiland, M.D., 3008 Themis, Apt. C, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Eiland is a native of Memphis, Tenn., received his preliminary education at the University of Tennessee and his M.D. degree at the University of Tennessee in 1978. He specializes in radiology.

Joseph K. Goldenberg, M.D., 8112 Delmar Blvd., University City 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Goldenberg is a native of St. Louis, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1980. He specializes in pediatrics.

W. Paul Grayson, M.D., 7010 N. Cherry, Kansas City 64152, has become a member of Clay County Medical Society. Dr. Grayson is a native of Shreveport, La., received his preliminary education at the University of New Orleans and his M.D. degree at Louisiana State University in 1979. He specializes in internal medicine.

Cynthia E. Schloss Guy, M.D., Barnes Hospital, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Guy is a native of the Republic of Panama, received her preliminary education at the University of Michigan and her M.D. degree at the University of Dominica in 1977. She specializes in anesthesiology.

John M. Hatlelid, M.D., Suite 510, 100-N. Euclid, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Hatlelid is a native of Williston, N.D., received his preliminary education at St. John's University and his M.D. degree at Washington University in 1977. He specializes in neurology.

Judith E. Ho, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Ho is a native of Highland Park, Ill., received her preliminary education at Pomona College and her M.D. degree at St. Louis University in 1967. She specialized in pediatrics.

Robert D. Jensen, M.D., 20 E. 14th, Kansas City 64106, has become a member of Jackson County Medical Society. Dr. Jensen is a native of Hastings, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1979. He specializes in pathology.

Courtnet R. Johnson, M.D., 3662 Park, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Johnson is a native of Manhattan, Kan., received his preliminary education at Harvard College and his M.D. degree at Washington University in 1976. He specializes in pediatrics.

Howard W. Kilbride, M.D., Children's Mercy Hospital, 24th & Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Kilbride is a native of California, received his preliminary education at the University of Washington and his M.D. degree at the University of Washington in 1972. He specializes in pediatrics and neonatology.

Shrikrishna R. Kulkarni, M.D., 14337 Cypress Hill Dr., Chesterfield 63301, has become a member of St. Charles-Lincoln County Medical Society. Dr. Kulkarni is a native of Bombay, India, received his preliminary education at Khalsa College and his M.D. degree at J.N. Medical College in 1973. He specializes in psychiatry.

Kim L. Lee, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Lee is a native of St. Louis, received her preliminary education at Washington University and her M.D. degree at St. Louis University in 1983. She specializes in internal medicine.

John J. K. Loh, M.D., Boone Hospital Center, 1600 E. Broadway, Columbia 65201, has become a member of Boone County Medical Society. Dr. Loh is a native of Seoul, Korea, received his preliminary education at Yonsei University and his M.D. degree at Yonsei University in 1967. He specializes in radiation therapy.

Atchawee Luisiri, M.D., 1465 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Luisiri is a native of Bangkok, Thailand, received her preliminary education at Mahidol University and her M.D. degree at Ramathibodi School of Medicine in 1974. She specializes in radiology.

Ben R. Mayes, M.D., 232 S. Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Mayes is a native of Nashville, Tenn., received his preliminary education at Vanderbilt University and his M.D. degree at Washington University in 1966. He specializes in diagnostic radiology.

To Geriatric Citizens From a Small Town Physician

By

Mel M. Allego, M.D.
Poplar Bluff

Wake up and marvel at the handwoven morning.
Each day a new communion with reality.
Desires perch upon your eyelashes, adorning
The most private touch of sentimentality

Wheelchairs wander over familiar corridors
Retracing the footstep of the once youthful past.
Somehow in solitude, hearts hide behind old doors.
Souvenirs, family albums forever last.

Feel a fever in mankind at summit of noon,
Pipe smoke smothering hatred in this universe.
Your walking canes hobble towards angelus soon
As seagulls of twilight peace finally converse.

Keepers of memorabilia, clowns of childhood,
Transient travelers, artists of wrinkled vintage,
Prodigal apple-pickers retiring for good.
Your graying hairs bespeak of wisdom, heritage.

Evening arrives masquerading as loneliness.
Hear life's football, send fear, uncertainty away.
Slumber in God's embrace, vigil of holiness,
Tomorrow is beautiful, serene, heartfelt day.

Greg G. Monaghan, M.D., 3401 Berry Wood Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Monaghan is a native of Charles City, Iowa, received his preliminary education at Southwest Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in internal medicine, hematology and oncology.

Karen J. Pentella, M.D., 11155 Dunn Rd., St. Louis 63136, has become a member of St. Louis Metropolitan Medical Society. Dr. Pentella is a native of Canton, Ohio, received her preliminary education at Ohio State University and her M.D. degree at Ohio State University in 1979. She specializes in neurology.

Naveed Razzaque, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Razzaque is a native of Rawalpindi, Pakistan, received his preliminary education at Cantt Public College and his M.D. degree at King Edward Medical College in 1981. He specializes in internal medicine.

Joseph S. Richmond, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Richmond is a native of Memphis, Tenn., received his preliminary education at the University of Kansas and his M.D. degree at Chicago School of Medicine in 1983. He specializes in internal medicine.

Nicholas F. Robinson, M.D., 301 E. S. By-Pass, Kennett 63857, has become a member of Dunklin Medical Society. Dr. Robinson is a native of Kennett, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1982. He specializes in internal medicine.

Richard C. Robinson, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Robinson is a native of New York, N.Y., received his preliminary education at Fordham University and his M.D. degree at the University of Minnesota in 1981. He specializes in internal medicine.

Randall D. Roush, M.D., 12255 De Paul Dr., Bridgeton 63044, has become a member of St. Louis Metropolitan Medical Society. Dr. Roush is a native of Evansville, Ind., received his preliminary education at the University of Michigan and his M.D. degree at Wayne State University in 1978. He specializes in orthopaedics.

Wagih A. Satar, M.D., 1515 Lafayette, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Satar is a native of Egypt, received his preliminary education at Cairo University and his M.D. degree at Cairo University in 1975. He specializes in ophthalmology.

Paul G. Schneider, M.D., 1035 Bellevue, Suite 500, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Schneider is a native of St. Louis, received his preliminary education at Indiana University and his M.D. degree at St. Louis University in 1976. He specializes in internal medicine.

Ronald J. Sharp, M.D., Suite 509, 4400 Broadway, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Sharp is a native of Logan, Utah, received his preliminary education at Brigham Young University and his M.D. degree at the University of Oregon in 1973. He specializes in pediatric surgery.

Anne K. Sly, M.D., Consortium for Health Education, 2920 McGee Trafficway, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Sly is a native of St. Louis, received her baccalaureate and M.D. degrees at the University of Missouri-Kansas City in 1978. She specializes in internal medicine.

Levi W. Trammell, M.D., 203 W. Broadway, Columbia 65201, has become a member of Boone County Medical Society. Dr. Trammell is a native of Popular Bluff, received his preliminary education at Southeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in obstetrics and gynecology.

Gary A. Vlahovich, M.D., 2200 W. Port Plaza Dr., Suite 212, St. Louis 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Vlahovich is a native of Kirksville, received his preliminary education at Northeast Missouri State University and his M.D. degree at Kirksville College of Medicine in 1974. He specializes in internal medicine.

Mark A. Ward, D.O., 17820 Greentree Ave., Independence 64057, has become a member of Jackson County Medical Society. Dr. Ward is a native of Rochester, Minn., received his preliminary education at the University of Montana and his D.O. degree at West Virginia School of Osteopathic Medicine in 1982. He specializes in internal medicine.

David M. Witten, M.D., M201 Medical Science Bldg., #1 Hospital Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Witten is a native of Trenton, received his preliminary education at Washington University and his M.D. degree at Washington University in 1954. He specializes in radiology.

John Woods, Jr., M.D., 621 S. New Ballas Rd., #307, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Woods is a native of Milwaukee, Wis., received his preliminary education at the University of Notre Dame and his M.D. degree at Marquette University in 1969. He specializes in general surgery.

Kamal Yassin, M.D., 11988 Charter House La., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Yassin is a native of Egypt, received his preliminary education at Cairo University and his M.D. degree at Cairo University in 1974. He specializes in anesthesiology.

John G. Yost, Jr., M.D., Suite T-207, 6420 Prospect, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Yost is a native of Brooklyn, N.Y., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1978. He specializes in orthopaedics.

New Student Members

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Mark A. Bastamante
Timothy H. Beger
David L. Clinkenbeard
Robert M. Davidson
Randall L. Fiete
Cheryl Y. Fleischman
Daniel E. Frederick
Brian H. Grimard
Richard T. Hatch
Sheryl S. Hertel
Nicholas A. Holekamp
Kyle E. Jackson
Conrad J. Tirre
Steven J. Trottier
David J. Zeffran
Gregory C. Zenni
Mathew A. Zorka

University of Missouri-Columbia

Kathleen A. Hunzicker

University of Missouri-Kansas City

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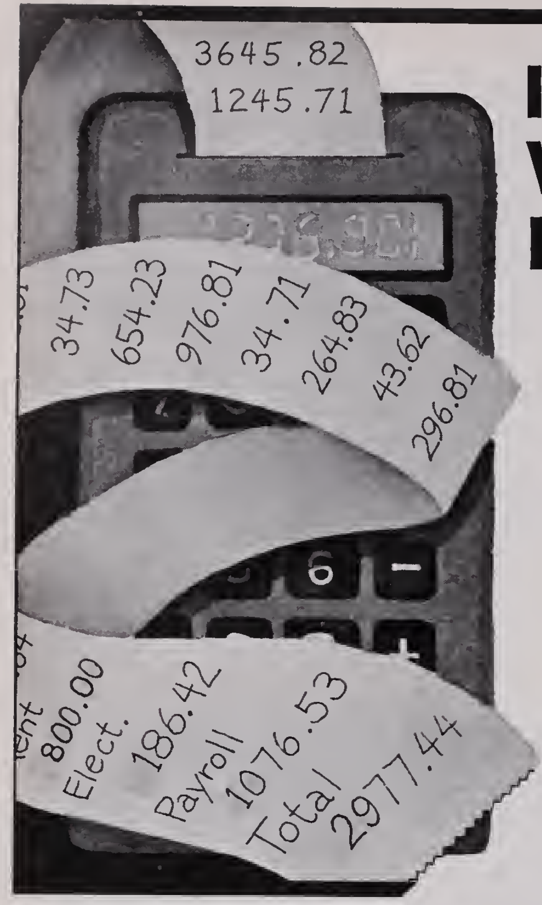

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

MOST STAFFED MEDICAL societies are expected to be a part of Fed/Net, the computerized telecommunications network of the AMA and GTE Corp. by the end of 1984 or early 1985. During Fed/Net's first two months, the AMA staff has responded to more than 200 requests for information from the 25 pilot subscribers. Regular messages are sent every Monday, Wednesday and Friday, and urgent messages are sent whenever necessary. For subscription information, call.

THE AMA'S NUTRITION scholarship program as well as its nutrition conferences have been instrumental in expanding the nutrition education of medical students, the Association said in a letter to a House subcommittee. In 1976, when the AMA began its clinical nutrition scholarship program, fewer than ten medical schools provided clerkships in clinical nutrition. Within one year, 27 schools were offering nutrition clerkship electives. By 1980, 47 schools had such electives. All schools integrate nutrition concepts into various basic and clinical science and clinical teaching courses. The AMA expressed support for continued federal funding of the National Program in Clinical Nutrition Research Units and other programs that train nutritionists.

TWO ORIGINAL paperbacks will join five current titles in the AMA Home Health Library. Random House will announce the availability in April of *The AMA Straight-Talk No-Nonsense Guide to Better Sleep* and *The AMA Straight-Talk No-Nonsense Guide to Health and Well-Being After Fifty*. Three hardcover books will be reissued in paperback for the first time: updated AMA guides to *WomanCare*, *HeartCare*, and *BackCare*. The new paperbacks will sell in bookstores for $8.95. Also in print are *The AMA Family Medical Guide* (hardcover) and *The AMA Handbook of First Aid and Emergency Care* (paperback).

"**AMERICAN MEDICAL** Radio News," which provides prerecorded reports on medicine and health to radio stations across the nation, has logged an average of 355 requests each day since it was established in May 1982. The 60- to 90-second reports are fed directly to radio stations via a toll-free telephone line. The *Journal of the AMA* is a major source for the radio reports. In addition, AMRN interviews physicians and researchers at major medical and scientific meetings.

GOVERNMENT OFFICIALS have failed to appropriate enough funds to pay for the social programs they have promised to constituents, AMA Executive Vice-President James H. Sammons, M.D., told the annual health policy meeting of the American Association of Retired Persons. Unless there are significant increases in projected revenues, the annual deficit for Medicare will be more than $138 billion by the year 2005, even with the DRG system in place, he said. Dr. Sammons pointed out that the cost-cutting potential of DRGs is far less than most people have been led to believe. Employee wages account for 60% or more of the hospital's overhead cost, he noted.

THE AMA URGED Congress to extend the priority period for establishing PROs by physician-sponsored and physician-access organizations for at least one year after the first PRO contract is negotiated. In testimony before a Senate subcommittee, the AMA said physician-sponsored organizations, such as state medical societies, are losing their preferential treatment status for qualifying as PROs because of the federal government's delay in implementing the Peer Review Improvement Act. No PRO contracts have been awarded. Payor organizations will be eligible to become PROs on Oct. 1, 1984, unless Congress acts to extend the priority period.

"**SEXUAL PROBLEMS** in Medical Practice," a clinical guide for practicing physicians and other health care professionals, is available from the AMA. The book, designed for those with little or no background in sexual counseling, provides a comprehensive overview of human sexual behavior. Cost of the book is $24 (medical students, $12). AMA members receive a 10% discount. To order, contact AMA Order Dept. at 312-645-5123.

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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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Missouri Medicine

Vol. 81, No. 5 (ISSN 0026-6620) May, 1984

Special Article

Freestanding Emergency Centers

Thorn-Induced Tenosynovitis of the Hand

Case Report

Nausea and Vomiting After Isoflurane Anesthesia

The Influence of Preoperative Medications

Editor's Corner

'A Day at The Legislature'

MISSOURI STATE MEDICAL ASSOCIATION

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PROGRESS NOTES

missouri state medical association

MAY 1984

DRG Monitoring Project Begun

Effective immediately, the AMA is implementing a DRG Monitoring Project for the profession.

Through this special effort, the AMA will solicit "grassroots" reactions and comments from physicians regarding the impact of the new Prospective Payment System in their hospitals.

Major objectives are to develop programs to assist physicians in dealing with the PPS/DRG regulations and to guide the AMA in seeking to effect appropriate legislative/regulatory changes that are indicated in this governmental system.

Physicians are asked to relate their experiences (both positive and negative) in a brief letter and direct it to: AMA DRG Monitoring Project, Department of Health Care Resources, P.O. Box 10907, Chicago, IL 60610.

House Defeats Medicare Law

After considerable controversy and much aggressive lobbying by physicians, a proposed federal amendment was defeated by a voice vote in the House of Representatives which would have frozen Medicare reimbursement for physician services for a year. The amendment also would have mandated acceptance of Medicare assignment for services to hospital inpatients.

On Sunday, April 1, the MSMA House of Delegates voted unanimously to express its opposition to the proposed mandatory assignment amendment and urged its members to contact their U.S. Representatives with expressions of opposition.

Members Asked to Comply

Delegates to MSMA Convention Unanimously Adopt Fee Freeze

Missouri physicians have unanimously voted to institute a one-year voluntary freeze on their fees and to accept reduced payment for fees when warranted by patients' financial circumstances.

The vote took place at the Missouri State Medical Association's 126th Annual Convention, March 29 — April 1, at the St. Louis Marriott Pavilion Hotel. The freeze, which went into effect immediately, applies to all physician charges from routine office visits to surgery.

"Although physician fees only account for about 17 cents of every health care dollar spent," James M. Stokes, M.D., new MSMA president said, "Missouri physicians want to do their part to contain the spiraling cost of medical care."

Delegates to the convention also approved a $25 MSMA dues increase, effective in 1985. Currently, the MSMA is the 12th or 13th largest state medical association and has the lowest dues in the nation. The increase, which will bring MSMA dues to $150 annually, will still leave the Association with the second lowest dues in the nation.

The delegates also adopted two changes in the MSMA Constitution and Bylaws. The first permits deans of each Missouri medical school, who are members of the Missouri State Medical Association, to serve as Delegates-at-Large to MSMA conventions. The second establishes a Judicial Council to replace the MSMA Council as the Association's judicial body.

Also adopted were the following resolutions:

- *Usual and Customary* or *Reasonable* — The MSMA will no longer advocate UCR as the sole preferential method of establishing third-party payments under fee-for-service. An immediate study will be undertaken to evaluate the positive aspects of both UCR and indemnity reimbursement methods.
- *Formation of Hospital-Medical Staff Section* — The MSMA Council will prepare proposed changes in the Constitution and Bylaws to implement the establishment of a MSMA Hospital Medical Staff Section. This will be presented at the 1985 MSMA House of Delegates.
- *Reducing Worker Absenteeism* The MSMA will develop a program to inform physicians what they can do to promote cost containment by helping to reduce unnecessary sick leaves, disability leaves, and absenteeism.
- *Tort Liability Reform* — The MSMA will initiate the formation of a coalition with hospitals, osteopathic physicians, the legal profession, insurance companies, business, industry, consumer groups and other professional groups. This coalition will address the following: 1) reform of Missouri product and professional liability laws, 2) appropriate public education programs regarding the liability problems and the cost to consumers, and 3) the problem of "expert witnesses."
- *Workers' Compensation Laws* — The MSMA will encourage the Missouri Division of Workers'

(continued on page 4)

St. Louis
Marriott Pavilion

MSMA 126th

(Above) *More than 300 delegates to the MSMA Annual Convention met to decide MSMA policies and procedures.* **(Right)** *James M. Stokes, M.D., St. Louis, received the MSMA presidential gavel at the Saturday evening installation from outgoing president Ronald A. Youmans, M.D.*

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(Above, left) *Andrew McCanse, M.D., Kansas City, debates a resolution on the floor of the House during the final session of the House of Delegates, Sunday morning.* **(Above)** *Delegates from the Eighth District discuss their thoughts on a resolution about to be voted upon by the House.* **(Left)** *Mrs. Donald (Jackie) Sanders, outgoing MSMA Auxiliary president, hands a $4,835.76 AMA-ERF grant check to William C. Allen, M.D., UMC School of Medicine assistant dean. Mrs. Sanders also awarded a $8,718.09 grant check to the Washington University School of Medicine; a $4,371.06 AMA-ERF grant check to the UMKC School of Medicine; and a $16,633.75 check to the St. Louis University School of Medicine.*

nnual Convention

March 29 -
April 1,1984

MISSOURI STATE
MEDICAL ASSC IATI

(Left) *Claude Wesley Cooper, M.D., Thayer,* (center) *was this year's recepient of the prestigious MSMA Citizenship and Community Service Award. Dr. Cooper received his plaque from MSMA President Ronald A. Youmans, M.D.,* (right) *and was escorted to the podium by Jack Wiles, M.D., West Plains,* (left). *Dr. Wiles is the MSMA Ninth District Councilor.* **(Below)** *James S. Todd, M.D., New Jersey, AMA Trustee, addressed the Friday General Session of the MSMA House of Delegates on "The DRG Experience in New Jersey."*

At the Convention more than 40 exhibitors displayed their wares ranging from medical supplies to insurance to paintings. **(Above)** *Several delegates take notes and register for prizes at the exhibit booth sponsored by Fred S. James & Company of Missouri, Inc.* **(Right)** *James M. Stokes, M.D., newly-elected MSMA president, shares a hearty handshake with Walter A. German, M.D., of Springfield* (left). *Dr. German was elected MSMA President-Elect during the final session of the House of Delegates. He most recently served as chairman of the MSMA Council.*

Court Limits MD Protections

The Missouri Supreme Court recently has handed down two decisions which partially undermine the statute of limitation protection previously afforded physicians in malpractice suites. The existing law requires all actions for malpractice to be brought within two years of the date of occurrence. However, in the two recent cases, the Supreme Court has held that the two-year statute of limitations does not apply in cases where a defendant seeks contribution from another defendant (physician).

In the first case, the plaintiff's doctor called in a prescription for 150 mg capsules of Elavil to a chain store pharmacy. Allegedly, the container was mislabeled as containing capsules of 25 mg, when they were actually 150 mg. Confused, the plaintiff called her doctor's office and was instructed by a member of his staff to take six capsules to equal her prescribed dosage of 150 mg. The plaintiff was hospitalized as a result of the resulting overdose.

The suit was originally filed against the pharmacy two years and one month after the incident. Assumedly, the doctor was not made a defendant due to the lapse of the two-year statute of limitations. Ten months later, and almost three years after the incident, the pharmacy enjoined the doctor as a defendant in order to apportion damages between the two.

The result is that, although a plaintiff may be barred by the two-year statute of limitations, a defendant will not be if he seeks contribution from a physician.

Dr. Allen Honored

William C. Allen, M.D., M.P.H., is this year's recipient of the MSMA Special Award of Recognition. In presenting the award at the MSMA Annual Convention, Dr. Ronald Youmans said, "Dr. Allen's long list of achievements represent his many years of service, devotion and commitment to the best possible health care for the citizens of Missouri."

Continued from page 1

Rural vs. Urban DRGs "Unfair"

Compensation to re-examine its present disability rating system to insure that the system stresses incentives for returning disabled workers to the work force. If a problem exists, the MSMA will provide information and education to physicians regarding rehabilitation which could return those individuals designated "permanent/partial disability" to the work force.

- *Athletes' Use of Chemical Substances* — The MSMA will submit a resolution to the American Medical Association to initiate through its Council on Scientific Affairs a comprehensive study on the use of chemical substances by athletes.
- *Prospective Payment to Hospitals* — The MSMA will recommend to the federal government that the lower payments to rural hospitals as compared with urban hospitals for identical DRGs are unfair and this differential should be abolished.
- *Barriers to Membership* — The MSMA and component medical societies are encouraged to eliminate barriers to membership by making several changes in membership rules and procedures including reducing dues to physicians in their first year of private practice.
- *Medicaid: Institutionalized Care* The MSMA will make a thorough study of Medicaid's policies toward institutionalized care of patients and exert its full power, both political and social, in seeing that inequities involving institutionalized care are corrected.
- *Weekend Admissions and Managed Health Care Delivery System* — The MSMA will thoroughly investigate Medicaid's policies regarding Managed Health Care Delivery System, restrictive regulations relating to weekend patient admissions to hospitals, and restrictions which limit each beneficiary to a certain number of prescriptions per month. If any of these are found to be detrimental to patients, the MSMA will use all of its power to correct the demonstrated deficiencies.
- *Peer Review* — The MSMA House of Delegates endorses the action of the Missouri Patient Care Review Foundation to subcontract to the local PSROs those functions that are legally and medically necessary.
- *Resident Physicians' Section* — The MSMA Council will prepare changes in the Constitution and Bylaws to implement the establishment of a MSMA Resident Physician Section. This will be presented to the 1985 House of Delegates.
- *Vaccine Liability* — The MSMA will support or initiate legislation in the State of Missouri to free physicians from liability from reactions when administering mandatory vaccinations for diptheria, pertussis, tetanus, measles, rubella, mumps and polio.
- *Raising the Drinking Age to 21* The MSMA will support legislation on the national level to raise the legal drinking age to 21.
- *Confidentiality of Recorded Proceedings of Hospital Committees* The MSMA will develop and cause to be presented to the Missouri General Assembly a bill which will guarantee the confidentiality of minutes, correspondence, and other recorded proceedings of hospital committees which are concerned with the quality of patient care. The Missouri State Board of Registration for the Healing Arts shall not be limited in their access to these records.
- *Physician Consensus on Outpatient Surgical and Medical Procedures and Medical Illnesses* — (Referred to MSMA Council) This resolution, if approved, would require the MSMA to develop a list of medical and surgical procedures and medical illnesses that may be managed on an outpatient basis, and this list be promulgated to all physicians, patients and third party payors. The MSMA would also obtain from all third party payors a list of procedures which they do not cover as outpatients and then use this list to attempt to obtain third party coverage for these procedures.

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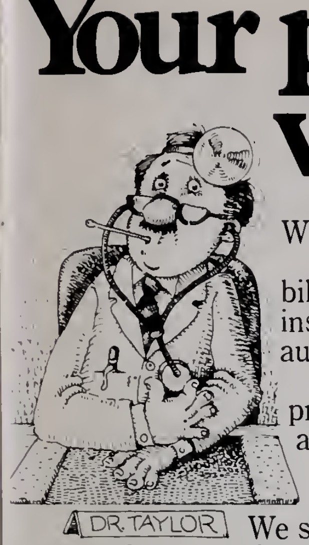

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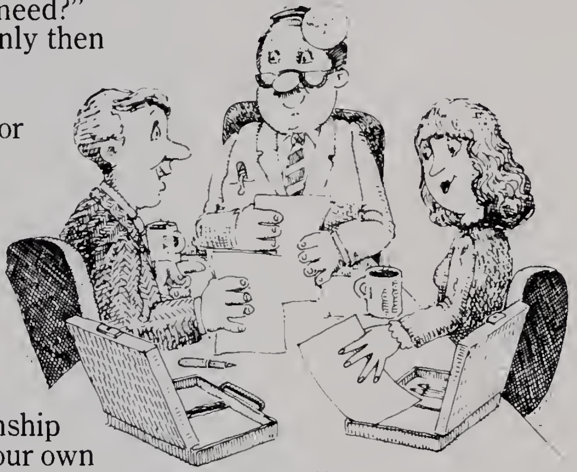

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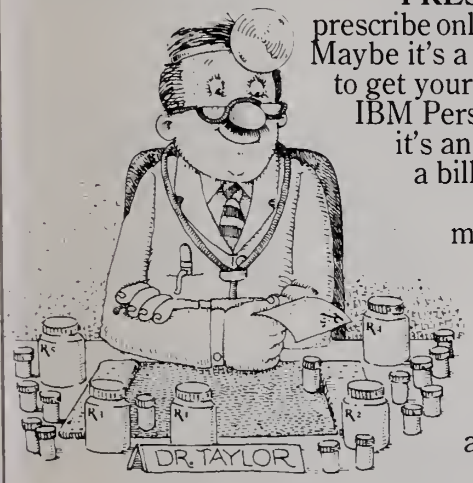

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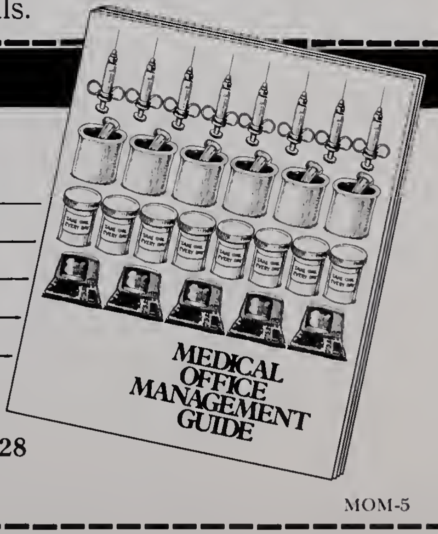

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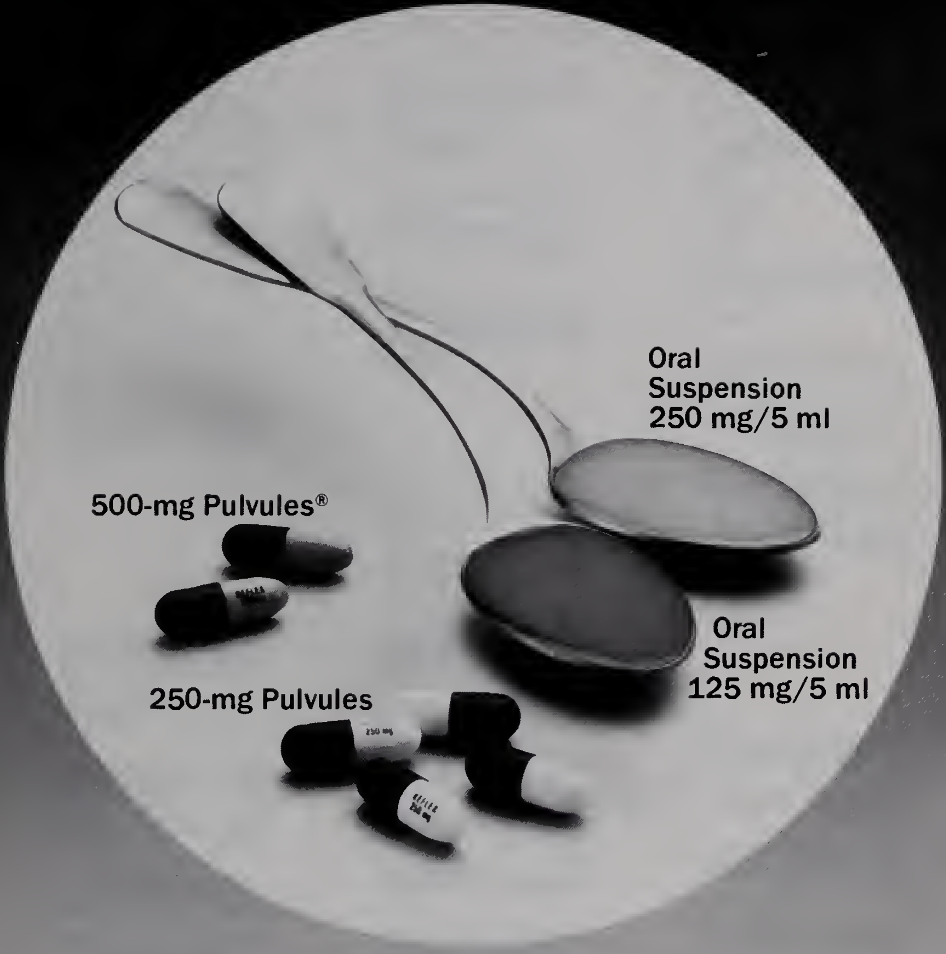

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Editor's Corner

EDITORIAL

"HONEST PEOPLE PAY THEIR DOCTOR BILLS." This rather imperious slogan is reproduced life-sized from the November, 1925 issue of the *Springfield, Mo Clinical Bulletin,* in which it was printed with directions that each physician place it in plain view in his office. Collection rates in those pre-depression days must not have been up to the 95+% figure that physicians now claim as their due. Such a placard in a reception room now would curl the hair of the PR people, but it does bring up an interesting thought. Is not paying a doctor's fee, any more than any other bill owed, dishonesty? If so, then in this day and age the insurance carriers and governmental agencies are guilty of dishonesty in not giving full payment for medical services for which they have assumed responsibility.

The dollar value of professional services is an empirical item, subject to supply and demand, affected by the same factors that control all business operations, but more uniquely based on skills acquired through lengthy training that leaves the practitioner comparatively few earning years. If physicians are to demand total payment for services rendered (i.e., honesty) of their patients, then they must first themselves be honest with their patients. Part II of the *AMA Principles of Medical Ethics* says that "A physician shall deal honestly with patients and colleagues —." Services must not be over-valued; nonpertinent procedures of any type should be avoided. Clear understanding of costs involved needs to be discussed with the patient. The conscientious business man who tells his customer, "I don't have that item; why don't you try my competitor down the street," must be matched by the physician who says, "I don't believe I am the best person to treat you; you should try the doctor up the avenue."

No matter how self-righteous we may feel about physicians' fees, the fact remains that individual physician income as measured in 1930 dollars is now nearly four times as much as it was 50 years ago. The public basically knows this. The politicians know this. Insurance companies know this. Doctors' bills have been the subject of jokes for years ("operating to remove the patient's pocketbook," etc.). Nowadays, the public seems less amused by all facets of the high cost of medical care; perhaps the attitudes of 50 years ago have come home to roost.

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References:

1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for refractory angina pectoris *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary-artery spasm Experience in 127 patients. *N Engl J Med* 302 1269-1273, June 5, 1980.

BRIEF SUMMARY
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INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e g , where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated occasional patients have had excessive and poorly tolerated hypotension These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally, the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

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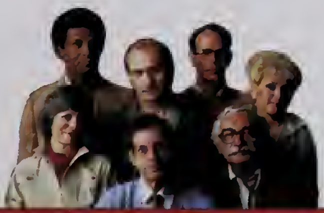

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Missouri Medicine

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FREEMAN F. BROWN III, M.D., JOSE QUINONES, M.D.,
JAMES R. SANDERS, M.D. *and* LEONARD W. FABIAN, M.D., *St. Louis*

Nausea and Vomiting After Isoflurane Anesthesia

The Influence of Preoperative Medications

Nausea and vomiting subsequent to general anesthesia is a common problem with a reported incidence partially dependent on several variables.[1-3] Among these variables is the type of anesthetic agent administered.[1, 3] When beginning clinical trials of the new potent inhalation agent, isoflurane, and after the first 12 to 15 patients had been in our recovery room, there appeared to be a greater than usual incidence of nausea and vomiting.

This study was designed to document this observation and to test the incidence by varying the premedication. One of the premedications used was droperidol. Droperidol is one of the butyrophenone derivatives. Like the other members of this family, including haloperidol, it has a definite antiemetic effect. This antiemetic effect appears to be centrally mediated via blockade of the dopaminergic neurons of the medullary chemoreceptor trigger zone.[4] Other actions of droperidol are results of this dopaminergic blockade and include drowsiness, hypotension and extrapyramidal effects.[4, 5]

Methods

Ninety-two patients (ASA classes I through IV) undergoing a variety of surgical procedures were randomly assigned to four groups on the basis of their hospital numbers. All premedication was given 60 to 90 minutes before induction and doses are listed in Table 1. Each patient in the first three groups received a general inhalation anesthetic consisting of isoflurane-N_2O-O_2, while Group IV patients were administered halothane-N_2O-O_2.

For the purposes of this study, nausea was defined as the subjective, nonsolicited complaints of nausea to the interviewer or the recovery room nurse. Vomiting was an episode observed by the interviewer or the recovery room nurse. Dura-

TABLE 1

Total	*Group I* 20	*Group II* 22	*Group III* 23	*Group IV* 27
Premedication	Meperidine 0.5 mg/kg Droperidol 0.1 mg/kg Atropine 0.4 mg	Meperidine 1 mg/kg Atropine 0.4 mg	Atropine 0.4 mg	Meperidine 1 mg/kg Atropine 0.4 mg
Anesthetic	Isoflurane N_2O-O_2	Isoflurane N_2O-O_2	Isoflurane N_2O-O_2	Halothane N_2O-O_2

The incidence of nausea and vomiting was determined in 92 American Society of Anesthesiologist classes I through IV patients undergoing a variety of surgical procedures. The authors describe the premedications and anesthetics administered to patients in each group. They explain how the incidence of nausea and vomiting can be significantly reduced.

Dr. Krechel is Associate Professor, Dr. Otto is a Fellow, Dr. Brown is an Instructor, Dr. Quinones and Dr. Sanders are Residents; and Dr. Fabian is Professor, Department of Anesthesiology, Washington University School of Medicine.

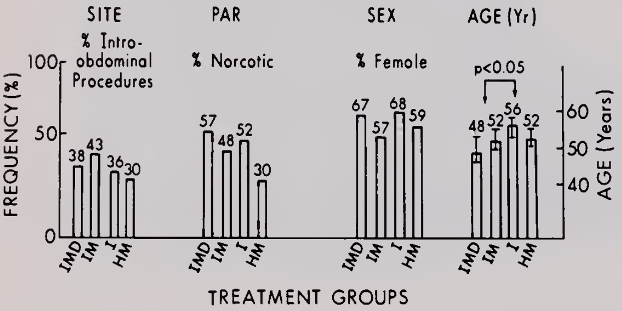

Fig. 1 All patients received atropine. Categories are inhalation agent (I,H) and premedication (M±D or neither). Ages are expressed as ± SEM.
I = Isoflurane; H = Halothane; M = Meperidine; D = Droperidol.

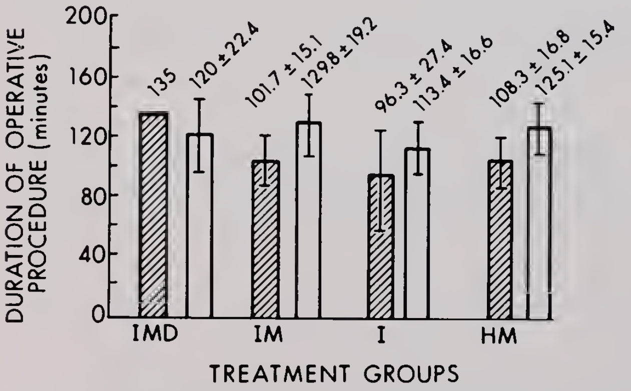

Fig. 2 All patients received atropine. Categories are inhalation agent (I,H) and premedication (M±D or neither). Duration of operative procedure is expressed as mean ± SEM.
I = Isoflurane; H = Halothane; M = Meperidine; D = Droperidol.

tion of observation was limited to the time that the patient spent in the recovery room. Other predisposing variables studied in respect to the incidence of nausea and vomiting were sex, site of surgery, age, the administration of narcotics in the recovery room, duration of the surgical procedure, and the use of an oropharyngeal airway and nasogastric tube. Data were analyzed using a chi-square test in respect to all variables except age. A Student's T-test was used to evaluate difference in the patient's age. A p-value less than 0.05 was considered significant.

Results

When groups were compared according to sex, site of surgery (i.e. abdominal vs nonabdominal), and percentage of patients receiving narcotics in the recovery room, no significant difference was found among the groups. In comparing the age differences, Group I patients proved to be significantly younger than those in Group III (Fig. 1).

Among the four treatment groups, there was no significant difference in the duration of the operative procedure in patients who had nausea and vomiting and those who did not (Fig. 2).

As shown in Fig. 3, the highest incidence of nausea and vomiting (41%) was that seen in Group II. Those patients receiving halothane had the next highest incidence of 22%. Group III had an incidence of 17% and the lowest incidence of 5% postoperative nausea and vomiting was found in Group I. Statistical analysis showed only a significant difference between Groups I and II. In addition, two other variables were tested, i.e. the presence of an oropharyngeal airway and the presence of a nasogastric tube. There was no statistically significant difference among any of our groups.

Discussion

Postoperative nausea and vomiting have long been associated with general anesthesia and have been the subject of numerous studies.[1-3, 6] Although nausea and vomiting are generally considered to be minor complications of general anesthesia, they are not necessarily minor complications in terms of the discomfort that they cause for the patient. Severe electrolyte imbalance may result from prolonged vomiting, and wound healing may be jeopardized depending upon the force of retching. Aspiration in the early postoperative period may convert vomiting from a minor to a major complication.

The evaluation and comparison of previous studies is difficult. One of the problems is varying definitions of nausea and vomiting. Another is the time frame of the study. Does it cover only the early postoperative period (recovery room period) or does it also include the later postoperative period? Reported incidences as high as 82% or as low as 35% were common in the day of diethyl-ether and cyclopropane anesthesia.[6, 7]

In general, the incidence was found to be higher with diethyl-ether than with cyclopropane. It is interesting to note that Cronin *et al*[8] in an unsupplemented N_2O-O_2 relaxant technique, found a 45% incidence of nausea and vomiting. More recently, with the advent of the potent fluorinated agents such as halothane and isoflurane, reports of nausea and vomiting occurring in the recovery room have been in the range of 15%.[9] The incidence of nausea and vomiting with enflurane has been reported by Dobkin[10] to be in the range of 26% within the first six hours after administration.

There are a number of factors that have been suggested as contributing to the incidence of postoperative nausea and vomiting. One of the most important of these is the use of preoperative medication. The administration of opiates has long been known to be associated with nausea and vomiting. Their action is thought to be via direct stimulation of the chemoreceptor trigger zone.[11]

Bellville[3] has presented data that suggest that an optimal dose of 1 mg/kg of meperidine acts to inhibit nausea and vomiting while doses greater than this can actually contribute to the incidence of postoperative nausea and vomiting. In his study, he noted an incidence of postoperative nausea and vomiting of roughly 7% at a dose of 1 mg/kg of meperidine administered preoperatively. At the lower dose range of 0.5 mg/kg of meperidine, the incidence of nausea and vomiting was noted to be in the range of 20%.

Atropine has been shown to have a slight antiemetic action.[1] The incidence of nausea and vomiting following administration of Innovar®, the fixed drug combination containing fentanyl and droperidol, is 5% to 10%.[11, 12]

It is interesting to note that our study showed a rather high (41%) incidence of nausea and vomiting following isoflurane anesthesia with a 1 mg/kg dose of meperidine plus 0.4 mg of atropine given preoperatively. The halothane group with the same premedication showed an incidence of 22%. When the premedication was altered so that the dose of meperidine was 0.5 mg/kg and 0.1 mg/kg of droperidol was added along with the 0.4 mg of atropine, the incidence of nausea and vomiting dropped to 5%, which proved to be a significant difference. It is not surprising that the addition of an antiemetic, a butyrophenone, would be associated with a decrease in the incidence of nausea and vomiting.

Additional factors that have been suggested to be operative in determining the incidence of nausea and vomiting include the age of the patient, sex difference, duration of anesthetic, experience of the anesthetist, the use of an oropharyngeal airway, passage of a nasogastric tube, the amount of patient movement in the immediate postoperative period and, finally, the administration of narcotics in the early postoperative period.[3]

In respect to age, this study showed a statistically significant age difference between Groups I and III. Group I, having meperidine-droperidol preoperative medication, had a mean age that was significantly younger than Group III patients having only atropine preoperatively. These results

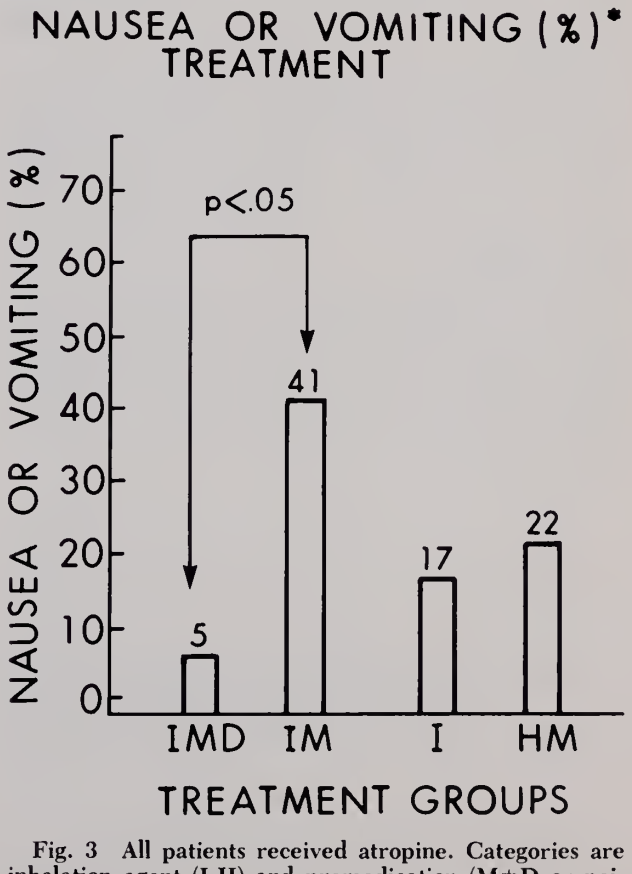

Fig. 3 All patients received atropine. Categories are inhalation agent (I,H) and premedication (M±D or neither).
I = Isoflurane; H = Halothane; M = Meperidine; D = Droperidol.

are contrary to what was actually expected on the basis of previous studies. Younger patients, in general, have been shown to have a higher incidence of nausea and vomiting than older patients. In fact, our Group I patients had the lowest incidence of nausea and vomiting.[9] No significant difference in the incidence of nausea and vomiting in respect to the sex of the patient nor to the duration of the operative procedure was noted. As far as the experience of the anesthetist was concerned, 80 of the 92 anesthetics were administered by one anesthesiologist, a senior resident. Thus, we do not believe that the experience of the anesthetist can explain the differences in our results.

There was no significant correlation regarding the placement of an oropharyngeal airway or nasogastric tube in respect to the incidence of nausea and vomiting. The amount of patient movement is a variable for which we made no attempt to control nor study. Each of these patients was handled by a variety of different individuals and in the most gentle manner possible. In addition, we found no significant correlation between the administration of a narcotic in the recovery room and the incidence of nausea and vomiting.

In view of the fact that many variables may be the cause and effect in relation to the incidence of nausea and vomiting, statistical surveys of this type are always open to criticism. We believe, however, the following two definite statements may be made:

1. The incidence of nausea and vomiting in the early postoperative period with isoflurane anesthesia in the presence of 1mg/kg dose of meperidine administered preoperatively was found to be higher than previously reported,[9] i.e., 41% as opposed to 15%.

2. We have shown a statistically significant decrease in the incidence of nausea and vomiting when the use of meperidine was decreased to 0.5 mg/kg and 0.1 mg/kg of droperidol was added to the premedication.

This study included a very limited number of premedicants. Indeed, there are many others to be considered in conjunction with reduction of postoperative nausea and vomiting. Some of these include haloperidol, glycopyrrolate,[14] prochlorperazine,[4] hydroxyzine,[13] cimetidine, and metoclroprimide.[15] These, as well as other combinations used in this study, should be considered on an individual basis to provide optimal premedication for the surgical patient.

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> Do what is right and strive to attain a goal that is worthwhile, even though you fail. Develop to your utmost the gifts God gives you. Never stop learning.
>
> —LUDWIG VAN BEETHOVEN

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Pregnancy-Induced Hyperemesis (Hyperemesis Gravidarum)

A Reassessment of Therapy and Proposal of a New Etiologic Theory

PREGNANCY INDUCED HYPEREMESIS (PIH) (Hyperemesis Gravidarum), a diagnostic and therapeutic enigma for the obstetrician, is an age-old entity whose cause has remained poorly defined. Multiple theories have been proposed, including elevated human chorionic gonadotropin levels and Vitamin B_6 deficiency, with minimal substantiation and consistency of findings. Nevertheless, we continue to see this disease entity recur with much the same frequency.

The critical point in the diagnosis of PIH occurs when uncomplicated nausea and vomiting of pregnancy become intractable. It is in the first stages of weight loss, dehydration and ketosis that the diagnosis of hyperemesis must be made, thereby precluding the serious sequelae of the metabolic imbalance, such as jaundice, confusion, coma and hepatorenal failure.

In light of the multiplicity of causes and the scarcity of research in this area, this retrospective analysis was undertaken to look at the present day management of PIH with the proposal of a new pathophysiological explanation for this clinical entity.

MATERIALS AND METHOD

The data base utilized in this study was generated from the obstetrical and neonatal units of Research Medical Center in Kansas City, a large metropolitan private institution with 2,500 birth deliveries per year. This information is based on a retrospective analysis of all patients admitted for PIH during the period of 1976 to 1981.

For each patient, data were generated on all medical conditions and diseases noted in the medical records, all drugs prescribed to treat the conditions, and the outcome of all pregnancies with newborn data relative to weights, APGAR scores, congenital anomalies, or other complicating factors.

Criteria for inclusion in the study were (1) intractable nausea and vomiting for longer than 24 hours, (2) urinary ketosis, (3) hyperemesis — unresponsive to outpatient therapy, (4) single fetus (twin gestations were eliminated) and (5) normal sonographic evaluation. All patients in the study received initial intravenous therapy with an isotonic saline solution and an antiemetic/antinausea agent of the admitting physician's choice. Serum and urinary electrolytes, serum chemistries, liver function studies and urine analysis with ketone measurements were also performed.

RESULTS

Total deliveries for the period (1976-1981) numbered 12,300 of which 60 patients were admitted with the diagnosis of PIH, giving a rate of 4.1/1,000.

PATIENT DATA PROFILE

The average age for the study population was 23.7 years (Table 1). Fifty percent of the PIH patients were primigravidas with a gravidity range from one to four and an average of 1.5 pregnancies. Additionally, 52 patients (86%) were

A five-year retrospective study of 60 patients with pregnancy induced hyperemesis (PIH) was analyzed to determine pregnancy complications, fetal outcome and present therapies. Therapy consisted of 14 different antiemetic/antinausea agents with several combinations dominating. The author provides a detailed discussion of the present management of pregnancy induced hyperemesis and proposes a new etiologic theory for its pathophysiology.

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TABLE 1
PATIENT DATA PROFILE

Age	*Gravidity (Range G1-G4) (Average-1.5)*	*Gestational Age on Admission*	*Average Weight Loss*
Average- 23.7 yrs.	G1-30 G2-15 G3-10 G4- 4	6-10 wks.-31 10-14 wks.-21 14 wks.- 8	4.6 lbs.

G = Gravidity.

TABLE 2
FREQUENCY OF THERAPEUTIC AGENT USED

Compazine	19
Bendectine	16
Vitamin B6	10
Emesert	8
Tigan	8
Valium	5
Want supp	4
Phenergan	3
Dramamine	3
Seconal	2
Phenobarbital	1
Dilantin	1
Donnatal	1
Paragoric	1

Combination of 2 or > drugs 31 pts.

admitted during the first trimester with 14% requiring second trimester admissions. The average weight loss was 4.6 lb, with ketonuria varying quantitatively from small (1+) to large (4+).

MEDICATIONS

The medications used in therapy are listed in Table 2. Compazine was most utilized in treating this group of patients (19), with bendectine constituting the second most commonly used agent (16 patients). Thirty-one patients (50%) were treated with two or more antiemetic/antinausea agents and seven patients received three or more.

RECURRENT HYPEREMESIS

Table 3 reflects the overall status of patients requiring more than one admission for recurrent hyperemesis. Eight patients (13.3%) required a total of 23 admissions (38% of total admissions) for control of their intractable nausea and vomiting. Five of the eight patients were primigravidas with two of them sustaining a subsequent fetal complication (2/8). One primigravida was severely ill and required hyperalimentation secondary to severe electrolyte imbalance and a blood urea nitrogen value (BUN) of 32 (hepatorenal syndrome). The fetal outcome in this group was generally good with no recorded mortalities. Additionally, there was a predominence of female infants (6/8) in this group.

NEWBORN DATA

Table 4 reflects the newborn data that consisted of 24 boys and 36 girls with boys weighing 7.6 ± .27 pounds and girls weighing 6.8 ± .92 pounds. The APGAR scores were similar between the two groups with most infants having one minute scores equal to or greater than 7.

FETAL COMPLICATIONS

As illustrated in Table 5, seven infants (11.6%) sustained a newborn complication. All infants in this group were girls, with two mothers requiring two or more admissions for control of their hyperemetic state. There were two serious fetal complications: Hydraencephaly (complete absence of cerebral hemispheres) with subsequent fetal death (1 year) and an intrauterine fetal death at 39-weeks gestation.

TABLE 3
INCIDENCE AND COMPLICATIONS OF RECURRENT HYPEREMESIS GROUP
(N = 8, Admissions = 23)

Age	*# of Admits*	*Gravidity*	*Infant Sex/Wt.*	*Complications*
26	2	G3	Female/8.7 lbs.	
20	2	G1	Female/8.05	Meconium
19	4	G1	Female/7.13	
32	3	G4	Female/7.13	
20	3	G1	Female/7.12	Hyperalimentation, Bun 38
25	3	G2	Male/8.2	
16	4	G1	Female/5.4	Prematurity @33 weeks
18	2	G1	Female/7.5	

N = Number of admissions with recurrent hyperemesis.

Discussion

Nausea and vomiting during the second to the fourth months of pregnancy are so common (50% to 75% of patients) that in combination with amenorrhea, these symptoms are often considered one of the earliest diagnostic signs of pregnancy.[1] It is, of course, necessary to exclude other possible causes of vomiting before diagnosing hyperemesis.

During the last two decades, many clinical investigators have made concerted efforts to determine the cause(s) of this complication of pregnancy. Proposed causes, including carbohydrate metabolism disturbance, Vitamin B deficiencies, endocrine imbalances, and genetic incompatibilities, have been clinically studied. However, none have been definitively proven. Unquestionably, the psychologic factor as stressed by Fairweather and Semmens[2, 3] is an essential ingredient contributing to the expression of this clinical entity. Nevertheless, it is probable that a combination of entities as well as some yet undefined pregnancy induced factor(s) are responsible for the end point, hyperemesis.

In this study, we were able to redefine, as well as support, some existing data. However, new questions were raised. First, PIH appears to be a disease entity most prominent in primigravidas, raising the issue of a challenged immune mechanism through the introduction of a new antigenic system (fetus). This appears to be a trophoblastic mediated entity, either directly or indirectly affecting its actions peripherally (gastro-intestinal tract) and/or centrally (vomiting center) at the level of the hypothalamus.[4]

The vast majority of patients (86%) in this study were in the first trimester of pregnancy (52/60), supporting the contention that an elevated human chorionic gonadotropin (HCG) level may be contributory, if not primary, to the overall state of nausea and vomiting.[1, 5] The incidence and timing of the nausea and vomiting parallels the gonadotropic level with peak symptoms correlating peak HCG levels. Recently, Kauppila *et al* used the HCG Beta unit and again found that HCG in the hyperemetic primigravida, in the first trimester, was 1.5 to twofold higher than a comparable control group.[4] He postulated that the hypothalamic vomiting center was more sensitive to HCG in these pregnant individuals. In addition, Adcock *et al* postulated that the increasing HCG was not only responsible for maintaining steroidogenesis by the corpus luteum, but it exhibited significant immunological properties potentially preventing rejection of the fetus.[1] Through his in vitro studies of HCG, he theorized that the fetus is accepted because HCG represents trophoblastic surface antigens and blocks the action of maternal lymphocytes.[1] Therefore, those primigravidas with pregnancy-induced hyperemesis and an elevated HCG level may potentially have some degree of antigenic (fetal) rejection. However, the significantly elevated HCG level with subsequent increased steroidogenesis prevents fetal loss through antigenic blockage.

During the past 11 years, therapeutic agents used to great PIH have not changed significantly, as supported by this study.[6] Compazine constituted the most frequently used antinausea/antiemetic agent with bendectine contributing significantly to the long-term management of PIH (Fig. 1). Presently, no drug has demonstrated superior antiemetic action or is considered com-

TABLE 4
NEWBORN DATA PROFILE

Sex	*Birth Weights*	*Apgar Scores*
Males-24 Females-36	Males-7.6 ± .27 Females-6.8 ± .92	Males-7.3 ± 1.2 Females-7.2 ± 1.0

p-Not significant for weights or APGAR scores.

TABLE 5
INCIDENCE AND TYPE OF FETAL COMPLICATIONS CORRELLATED WITH GESTATIONAL AGE AND NUMBER OF MATERNAL ADMISSIONS

Fetal Complications	*Gravidity*	*Sex*	*Gestational Age*	*# of Maternal Admissions*
Hydranencephaly	G1	Female	39 weeks	1
Fetal Demise	G3	Female	39 weeks	1
Prematurity	G1	Female	33 weeks	4
Prematurity	G3	Female	34 weeks	1
Fetal distress	G1	Female	37 weeks	1 (c-sect)
Thick meconium	G1	Female	39 weeks	2 (c-sect)
Thick meconium	G1	Female	38 weeks	1 (Apgar 2/3)

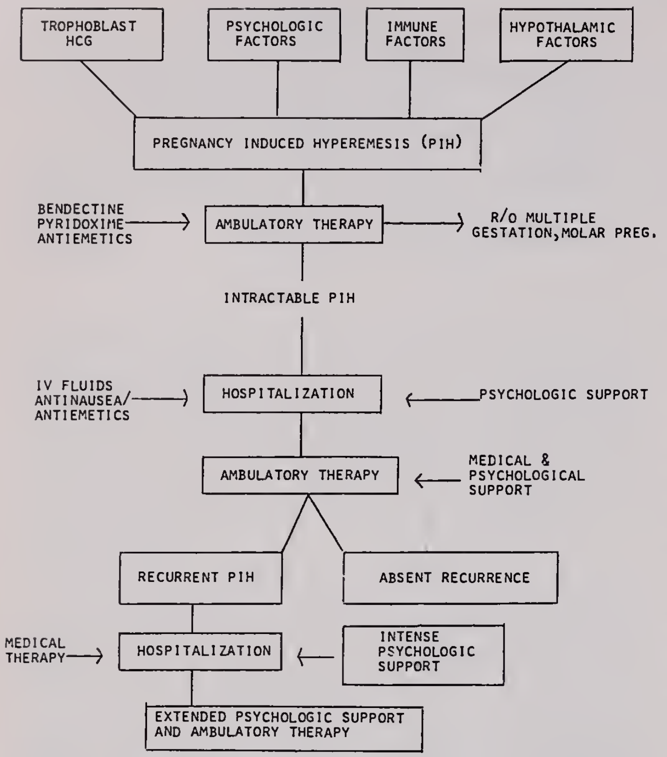
TROPHOBLAST HCG
PSYCHOLOGIC FACTORS
IMMUNE FACTORS
HYPOTHALAMIC FACTORS
PREGNANCY INDUCED HYPEREMESIS (PIH)
BENDECTINE PYRIDOXIME ANTIEMETICS
AMBULATORY THERAPY
R/O MULTIPLE GESTATION, MOLAR PREG.
INTRACTABLE PIH
IV FLUIDS ANTINAUSEA/ ANTIEMETICS
HOSPITALIZATION
PSYCHOLOGIC SUPPORT
AMBULATORY THERAPY
MEDICAL & PSYCHOLOGICAL SUPPORT
RECURRENT PIH
ABSENT RECURRENCE
MEDICAL THERAPY
HOSPITALIZATION
INTENSE PSYCHOLOGIC SUPPORT
EXTENDED PSYCHOLOGIC SUPPORT AND AMBULATORY THERAPY

Fig. 1 Management scheme for pregnancy induced hyperemesis.

pletely safe for use in pregnancy.[6] Nevertheless, as indicated by this study, multiple agents are still used to treat PIH with occasional combinations of three or more. In spite of this approach, it does not appear from these data or that of others, that PIH increases the incidence of spontaneous abortions, stillbirths or neonatal deaths, nor is there any support indicating that these patients are likely to produce infants who are underweight, have increased congenital anomalies or have lower APGAR scores.[2]

Pregnancy induced hyperemesis appears to be an early manifestation of trophoblastic activity in a subgroup of pregnant patients. This early trophoblastic activity and resultant PIH may be a manifestation of beta lipotropin hormone (endorphins) presence. Guillemin and Gantroy recently reported that beta lipotropin hormones were plentiful in the amniotic fluid as well as the placenta.[7] Genazzani and coworkers studied 82 normal pregnant women and found a significant drop in plasma B-endorphin levels in weeks 13 to 16.[8] This raises the question of what function, if any, does this hormone (Beta endorphin) that produces lactation, affectional behavior, and addictive dependency have in the mediation of pregnancy induced hyperemesis?

In addition to their presence in amniotic fluid and placenta, B-endorphins (1) bind opioid receptors generated by the placenta;[9-11] (2) are elevated by physiologic stress and insulin induced hypoglycemia, as are ACTH and prolactin;[12, 13, 14] and (3) by their presence or absence, opiates influence mood and feelings that modulate perception and thinking, which ultimately controls behavior.[9] Therefore, the inability to generate endorphins or bind to endorphin placental receptors or an altered response to endorphins centrally and/or peripherally may be some of the mechanisms responsible for PIH. Secondly, pregnancy is a physiologic stress with associated insulin-induced hypoglycemia of which both states are contributory to an elevated endorphin level. This elevated endorphin level during the first trimester may then act to exacerbate, if not induce, the psychic component of mood swings and an altered sense of well-being as well as incite nausea and vomiting through binding to the hypothalamic vomiting center. Through this binding activity in the vomiting center, it may further act in sensitizing this center to the effects of HCG (i.e., nausea and vomiting). Also, since affectional behavior, modulation of anxiety, caregiving behavior, and mother-infant bonding are induced by endorphins,[8] an altered production/metabolism response during the first trimester could potentially increase anxiety and stress that are centrally modulated via the hypothalamus, exacerbating nausea, vomiting with subsequent ketosis, dehydration, and further stress.[3]

The possibility that these neuroregulators may play a central and/or peripheral role in the mediation of PIH is speculative but, nevertheless, significant. Rather than focusing only on endorphins during labor and behavioral activity modulation postpartum, emphasis should now be shifted to further define their role(s) during early gestation in normal, as well as abnormal, gestations. This may prove to be a significant factor in a clinical entity that continues to be a nemesis for the obstetrician. Further research can solve this issue and hopefully increase our understanding of its pathophysiology, thereby leading to improved therapy for pregnancy-induced hyperemesis.

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CHARLES D. ETTELSON, M.D. *and*
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Thorn-Induced Tenosynovitis of the Hand

Case Report

In previous case reports of plant thorn-induced tenosynovitis in the hand, it has been suggested that persistent synovitis after thorn injury can be due to fungal infection (sporotrichosis). No evidence in recent literature could be found to support this suggestion. The authors recommend surgical exploration of the digit, removal of the reactive synovium and inspection of tendons for embedded foreign bodies.

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PLANT THORN-INDUCED foreign body reactions in bones, joints and tendon sheaths have been described in the British and American literature since 1952. Maylahn reported three cases of tumor-like radiographic lesions of bone that were found at surgery to be infection or granulomatous reaction to plant thorns (yucca, rose, and date palm).[1] Since that report, other investigators have reported "chronic septic arthritis,"[2] "chronic tenosynovitis,"[3] "monoarticular synovitis"[4] and "pseudotumors of bone"[5] attributable to plant thorns.

We recently treated a patient with tensynovitis following thorn penetration of his hand that featured an unusual intraoperative finding and stresses the importance of adequate exploration based on clinical findings.

CASE REPORT

A 17-year-old white boy sustained a puncture wound on the volar surface of the right long finger when he inadvertently grabbed a thorn bush. The entry point overlay the digital sheath at the mid-proximal phalanx level. He removed the thorn immediately but experienced the sensation of the thorn remaining within his finger. Results of physical and roentgenographic examinations by his physician were normal. During the ensuing months, swelling and tenderness developed on the volar aspect of the right long finger over the proximal phalanx. Active and passive motion was impaired. Ten months after injury, he was referred to us for evaluation. Physical examination showed moderate swelling and slight tenderness from the level of the distal palmar crease to the distal interphalangeal joint of the long finger (Fig. 1). Flexion was limited and painful at the metacarpal phalangeal, proximal interphalangeal and distal interphalangeal joints. There was no pain on extension of the finger. There was no other skin discoloration and one was unable to detect the site of puncture. Roentgenograms revealed soft tissue swelling of the long finger but no evidence of a foreign body. The patient was afebrile and had a normal white blood cell count, but an increased eosinophil count was observed (7% eosinophils). The diagnosis was synovitis secondary to thorn puncture.

Surgery was recommended because of persistent synovitis and functional loss. A volar, zig-zag incision was made in the palm and in the finger. The synovium of the long finger flexor tendon sheath was swollen, reddish-grey and glistening (Fig. 2). There were several small green punctuate foreign body fragments, presumably thorn, within the reactive synovium at the opening of the A-1 pulley (Fig. 3). The synovium, including the A-3 pulley, was excised between the A-2 and A-4 pulleys. The profundus tendon was swollen and nodular between the A-2 and A-4 pulleys (Fig. 4). A dorsal longitudinal incision was made in the tendon at this point and a 1 cm remnant of thorn was found within the flexor profundus tendon (Fig. 5). After removal of the thorn and reactive synovium, the wounds were irrigated and sutured. Early motion was begun. Within three weeks, the swelling had subsided and full flexion and extension had been regained.

Histopathological examination of the synovium showed acute and chronic inflammation and foreign body granuloma. No fungi or bacteria were seen. All cultures and smears (routine, fungal, mycobacterial) were negative. Tube and latex agglutination titers tests were negative. The foreign body was identified as part of a thorn.

DISCUSSION

Early reports describe finding plant thorn within the substance of the swollen synovium or involved bone. Cultures were frequently negative, but there are occasional reports of isolating

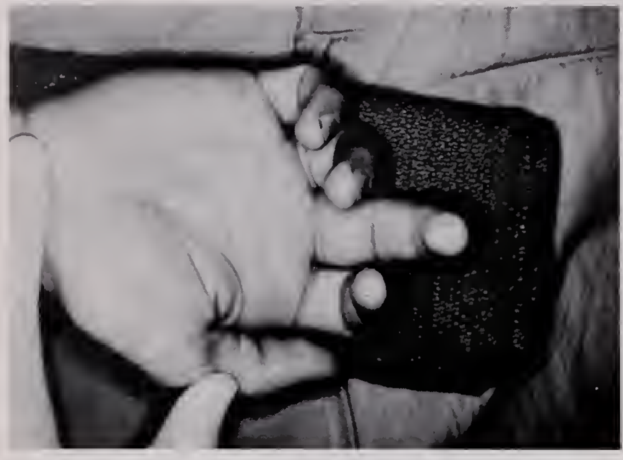

Fig. 1 Right long finger, which is swollen, does not assume the normal relaxed posture when the hand is in repose.

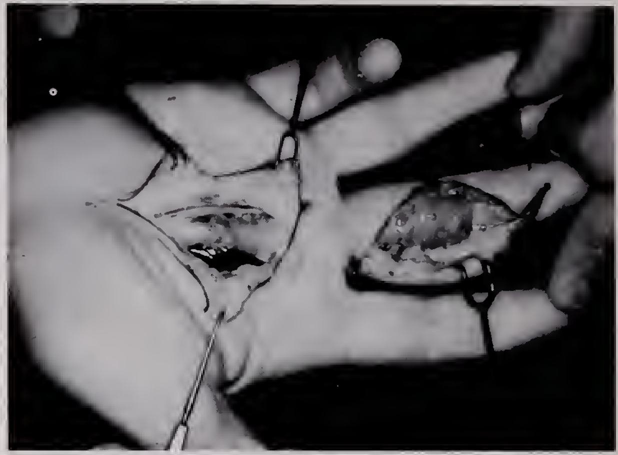

Fig. 2 Synovium is markedly involved from the distal palmar crease level to the A-4 pulley level.

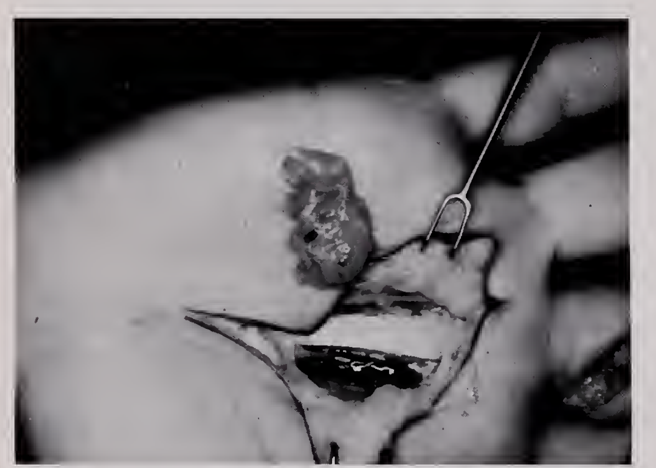

Fig. 3 Removal of the bits of thorn within the synovium required excision of the exuberant synovium.

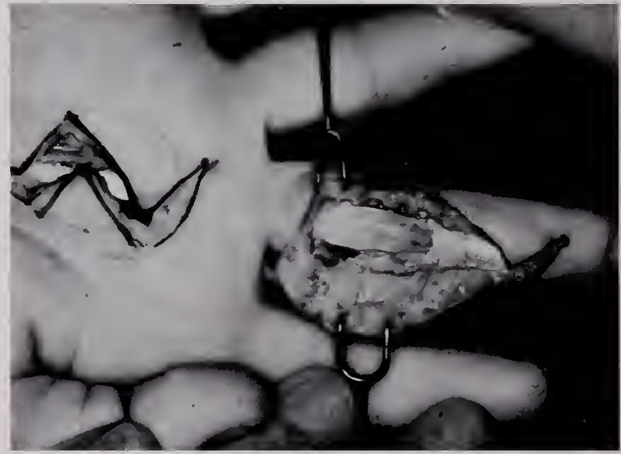

Fig. 4 After removal of the synovial reaction, the nodular reaction within the profundus tendon is evident between the A-2 and A-4 pulleys.

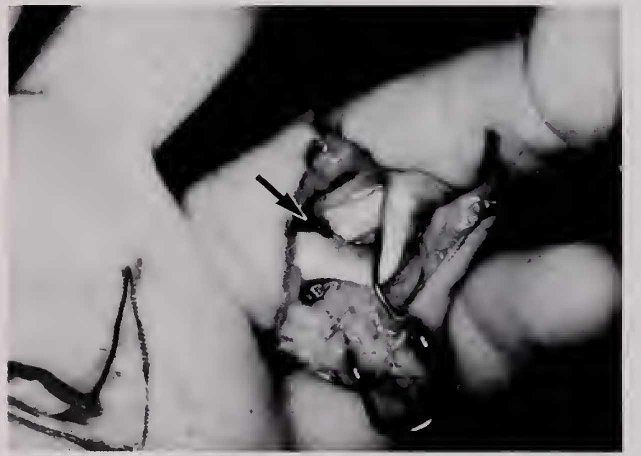

Fig. 5 When the profundus tendon was incised longitudinally on its dorsal surface, a large segment of retained thorn was evident.

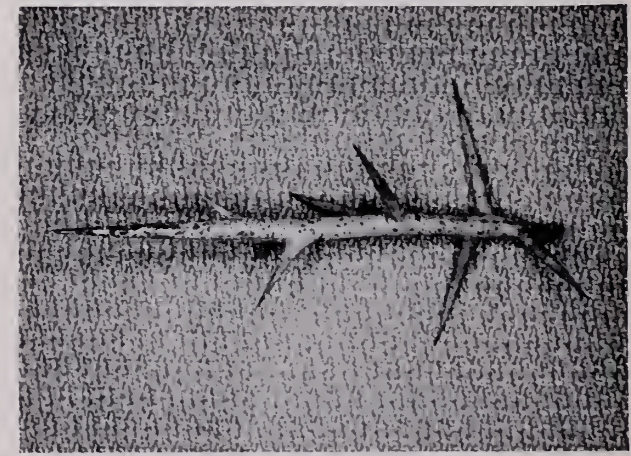

Fig. 6 The honey locust tree has numerous thorny shoots extending off the branches of the tree. The spikes contain multiple small spikes that are readily fragmented.

gram positive or gram negative bacteria. Contrary to the suggestion by Bunnell,[6] we found no documented cases of fungal infection, especially sporotrichosis, associated with a plant thorn injury.

The clinician must be alert to the possibility of thorn injury since many patients may not volunteer such information. The diagnosis of plant thorn synovitis should be considered especially in individuals with potential exposure to thorns (highway workers, gardeners, children). Once this diagnosis is considered, surgical exploration rather than antibiotic or steroid therapy is recommended.

Our patient returned to the site of injury and identified the offending plant (Fig. 6). Dr. Erna Eisendrath (Department of Botany, Washington University, St. Louis) identified this plant as *Gleditsia triacanthos,* commonly known as the honey locust. No toxin is associated with the honey locust. This tree is frequently found in rural and even suburban areas of Missouri. Eliot has previously reported a case of thorn-induced periostitis caused by thorns from this plant.[7]

At exploration, the surgeon must be tenacious in searching for bits of retained foreign body. As in this case, thorn fragments can be removed by excision of the reactive synovium in the palm at the opening of the A-1 pulley and by excision of the synovium between the A-2 and A-4 pulleys. This patient exemplifies the need for careful inspection of the tendons for retained foreign body fragments. The flexor tendons beneath the A-1 pulley and A-2 pulley are inspected by flexing the wrist and MP joint.

Any abnormality in tendon appearance must be explained. A longitudinal incision in the tendon may be necessary to expose embedded fragments of thorn. Reconstructing the injury can be helpful. In this case, the thorn penetrated the finger over the proximal phalanx and impaled the digital sheath (A-2 pulley) and flexor profundus tendon. As the patient withdrew from the injury, he flexed the fingers, causing the tendon to glide proximally and breaking the thorn at the interface between the pulley and tendon. The patient removed the piece of thorn penetrating the skin and "immediately experienced the sensation of a piece of thorn" remaining within the finger. His subsequent loss of flexion was due to the swelling of the finger and the tendon, the latter producing "internal triggering." The swollen tendon between the A-2 and A-4 pulley would abut the distal edge of the A-2 pulley during attempted active flexion, thereby restricting further flexion. Removal of the foreign body within the tendon allowed the reaction to subside and normal tendon gliding to occur.

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Pregnancy-Induced Hyperemesis

(Continued from page 256)

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RAYMOND A. AMOURY, M.D., THOMAS M. HOLDER, M.D.,
KEITH W. ASHCRAFT, M.D. *and* RONALD J. SHARP, M.D., *Kansas City*

Intussusception: Analysis of 68 Cases Seen at The Children's Mercy Hospital

This review of the experience with 68 cases of intussusception seen at The Children's Mercy Hospital in Kansas City shows that three fourths of the cases occurred in children under one year of age. The authors discuss the diagnosis of intussusception, their therapeutic approach and the results. Duration of illness was found to be a critical factor. None of the patients who had signs and symptoms of less than 24 hours required intestinal resection. There was one death in the series.

Dr. Spain is a Resident in Surgery, Medical Center of Central Georgia in Macon. Dr. Kingsborough is Resident in Pediatrics, Dr. Amoury is Surgeon-in-Chief, Dr. Holder is Chief of the Section of Cardiovascular Surgery, Dr. Ashcraft is Chief of the Section of Urology and Dr. Sharp is Chief Resident in Pediatric Surgery at The Children's Mercy Hospital. Drs. Amoury, Holder, Ashcraft and Sharp are also on the staff at the University of Missouri-Kansas City School of Medicine.

INTUSSUSCEPTION is one of the most common causes of intestinal obstruction seen in infants and children. It is a continuing cause of significant morbidity and an occasional mortality. This study was undertaken to evaluate the experience with 68 cases of intussusception seen at The Children's Mercy Hospital in Kansas City from 1971 to 1982.

Patients and Methods

In all instances, the diagnosis of intussusception was confirmed by barium enema or at operation or both. Three cases were demonstrated to have lead points: two were with polyps of the small intestine and one was with a large mesenteric node of the distal ileum. Meckel's diverticula were incidentally found in two of the cases, but they were not the lead point of the intussusception. Not included in this series were three patients in whom small intestinal intussusception occurred as a postoperative complication following laparotomy.

An average of six cases were seen annually. There were 41 boys and 27 girls (ratio of 3 : 2). This is in keeping with most reported series. Intussusception has been known to occur in children at any age with the highest incidence occurring in infants of less than one year of age.[1] The ages of our patients ranged from the newborn period to 12 years with three fourths of them presenting in the first year of life. The age distribution is shown in Table 1.

Seasonal variation in the incidence of intussusception has been reported, but no general agreement prevails. Some authors report seasonal peaks of intussusception with the highest incidence occurring during the summer months.[1]

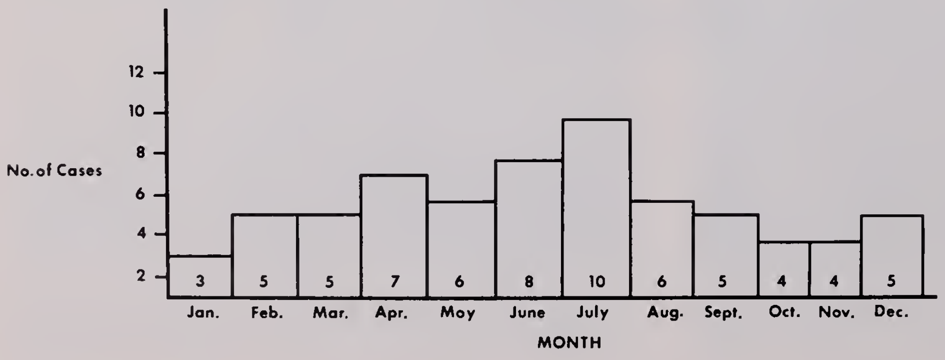

Fig. 1 Seasonal incidence by month of intussusception at The Children's Mercy Hospital in 1971-1982.

There was a slight seasonal variation in our experience as illustrated in Fig. 1. More than one half of the patients were admitted during the spring and summer months (March-August).

The relative frequency of physical signs and symptoms is shown in Table 2. The classical triad of vomiting, abdominal pain and hematochezia occurred in more than one half of the patients. An abdominal mass also was palpated in 35 (51%) of the patients.

The duration of symptoms and signs prior to admission is shown in Table 3. This was found to be important in that no patient who had onset of illness within 24 hours after admission to the hospital required a bowel resection. Ten of the 43 patients with a history of illness of more than 24 hours required resection.

Supine and erect abdominal roentgenograms showed one or more features of small bowel obstruction in 50 of the 68 patients (74%). Findings included air-fluid levels, dilated intestinal loops and absent colonic gas. In five patients, an abdominal mass also was identified.

Management and Results

Our therapeutic approach and results are shown in Table 4. Eight patients were taken directly to the operating room without having a barium enema. Two were thought to have intestinal volvulus, three had "small bowel obstruction" and one had an "abdominal mass." In one, the intussusceptum had prolapsed through the rectum, and one infant was felt to be "too ill" for a barium enema.

Of the 60 patients in whom a barium enema was done, hydrostatic reduction of the intussusception was successful in 18 (30%) and an operation was required for the remaining 42 patients (70%). Of the total of 50 patients operated on, six were found to have spontaneously reduced, while 34 required manual reduction. An incidental appendectomy was done in almost all of these cases. Ten patients required intestinal resection for a perforated or gangrenous intestine. Complications in the nonresected cases included one wound infection and a single wound dehiscence. Recurrence of intussusception occurred in three patients, only one of whom required reoperation. In the ten cases requiring bowel resection, the complications included one wound infection and the death of one patient whose wound dehisced and who died of Pseudomonas sepsis nine days after the operation.

TABLE 1
AGE DISTRIBUTION IN 68 CHILDREN WITH INTUSSUSCEPTION

Age (yr.)	*No.*	*%*
0-1	51	75
1-2	12	18
2-5	3	4
5-12	2	3
Totals	68	100

TABLE 2
PHYSICAL SIGNS AND SYMPTOMS
(IN ORDER OF FREQUENCY)

	No.	*%*
Vomiting	58	85
Pain	50	74
Hematochezia	37	54
Mass	35	51

TABLE 3
DURATION OF SYMPTOMS AND SIGNS PRIOR TO ADMISSION

Onset	*No.*	*%*	*Resection*	*% Resected*
Less than 24 hours	25	37	0	0
More than 24 hours	43	63	10	23
	68	100		

TABLE 4
MANAGEMENT AND RESULTS

Barium Enema Not Performed (taken directly to operating room)	8	
Barium Enema Performed	60	
Successful Reduction by Barium Enema	18	(30%)
Unsuccessful Reduction by Barium Enema	42	(70%)
**Total Operative Cases*	50	(74%)
Spontaneous Reduction	6	(12%)
Manual Reduction	34	(68%)
Intestinal Resection	10	(20%)

* Total of 50 operative cases consists of the eight patients taken directly to the operating room without a preliminary barium enema plus the 42 patients in whom attempt at barium enema reduction was unsuccessful.

Discussion

The diagnosis of intussusception is not always obvious and a high index of suspicion is necessary to pursue the diagnosis. While some authors report the occurrence of the classical triad of vomiting, abdominal pain and hematochezia in 85% of their cases,[2] we found emesis and pain in the majority of our patients with hematochezia in

54% (Table 2).

The efficacy and safety of barium enema hydrostatic reduction of uncomplicated intussusceptions is well recorded. The success rate in reduction with hydrostatic pressure varies anywhere from 50% to 80%.[3] In our series, a success rate of only 30% is probably accounted for by the presentation of almost two thirds of our cases after more than 24 hours following onset of illness.

Seventy-four percent of our patients required an operation. However, only 20% of them required a bowel resection. The other patients had reduced spontaneously or were reduced manually. This is in keeping with other series.[1]

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As the saying goes, the rain falls on both the just and the unjust. However, it is likely to rain more on the just because the unjust probably has the just's umbrella.

—ANONYMOUS

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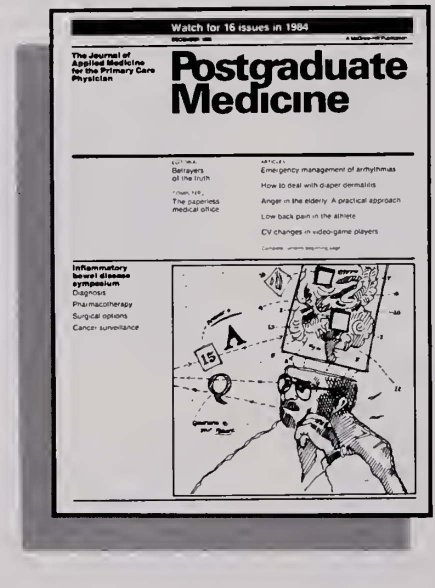
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President's Message

Historically, the Missouri State Medical Association has been composed of members of component medical societies from across the state. This has been, and continues to be, our strength in representing Missouri physicians and their patients in regard to issues affecting medical care.

Membership in the American Medical Association, although optional, has been strongly endorsed by the MSMA because, as a federation, organized medicine must function on the local, state and national levels to be effective. The AMA provides national news, guidance and other services so that it may appear that membership in the AMA without accompanying membership in local and state societies is "economical" for physicians. However, there are vital services that the AMA, as a national organization, cannot provide for physicians and their patients. These issues must be handled on the local and state levels.

James M. Stokes, M.D.
St. Louis

Although the list of services and benefits you receive from your MSMA is too lengthy to mention here (perhaps we should develop such a list for member solicitation), following are just a few activities your Association will continue or begin as a result of actions taken at our 1984 Annual Convention:

1. Support legislative reforms in an attempt to solve the ever-growing medical professional liability crisis.
2. Continue efforts to upgrade Medicaid support for indigent patients.
3. Provide loan funds to Missouri medical students demonstrating need.
4. Maintain constant monitoring and provide input on state and national legislation that impacts on physicians and/or patients.
5. Increase activities and cooperation with the Missouri Bord of Registration for the Healing Arts to insure the health and safety of the citizens of Missouri.
6. Provide leadership in addressing the problem of health care costs by requesting members to voluntarily freeze fees for one year and to consider the financial circumstances of each patient and accept reduced fees when warranted.
7. Recommend fair and equitable reimbursement policies for rural and urban hospitals under the DRG system.
8. Develop legislation to guarantee the confidentiality of proceedings of hospitals' commitees that are concerned with the quality of patient care.
9. Increase participation of Resident physicians. The future of medicine lies with our Residents and medical students and recent efforts should provide added incentives of both groups to join the MSMA.
10. Continue to sponsor MOMEDICO, the physician's professional liability insurance company that represents more than 1,600 Missouri physicians.

As stated before, these are just a few of the activities your MSMA will handle as a result of the recent Convention. There are many, many more, which I will attempt to point out in the future.

Your medical societies toil daily to best represent you and your patients. Inform your non-member friends of the benefits they receive due to your willingness and my willingness to support organizations that do battle for all physicians. Urge them to join with us so that our local, state and national medical societies can become even more effective.

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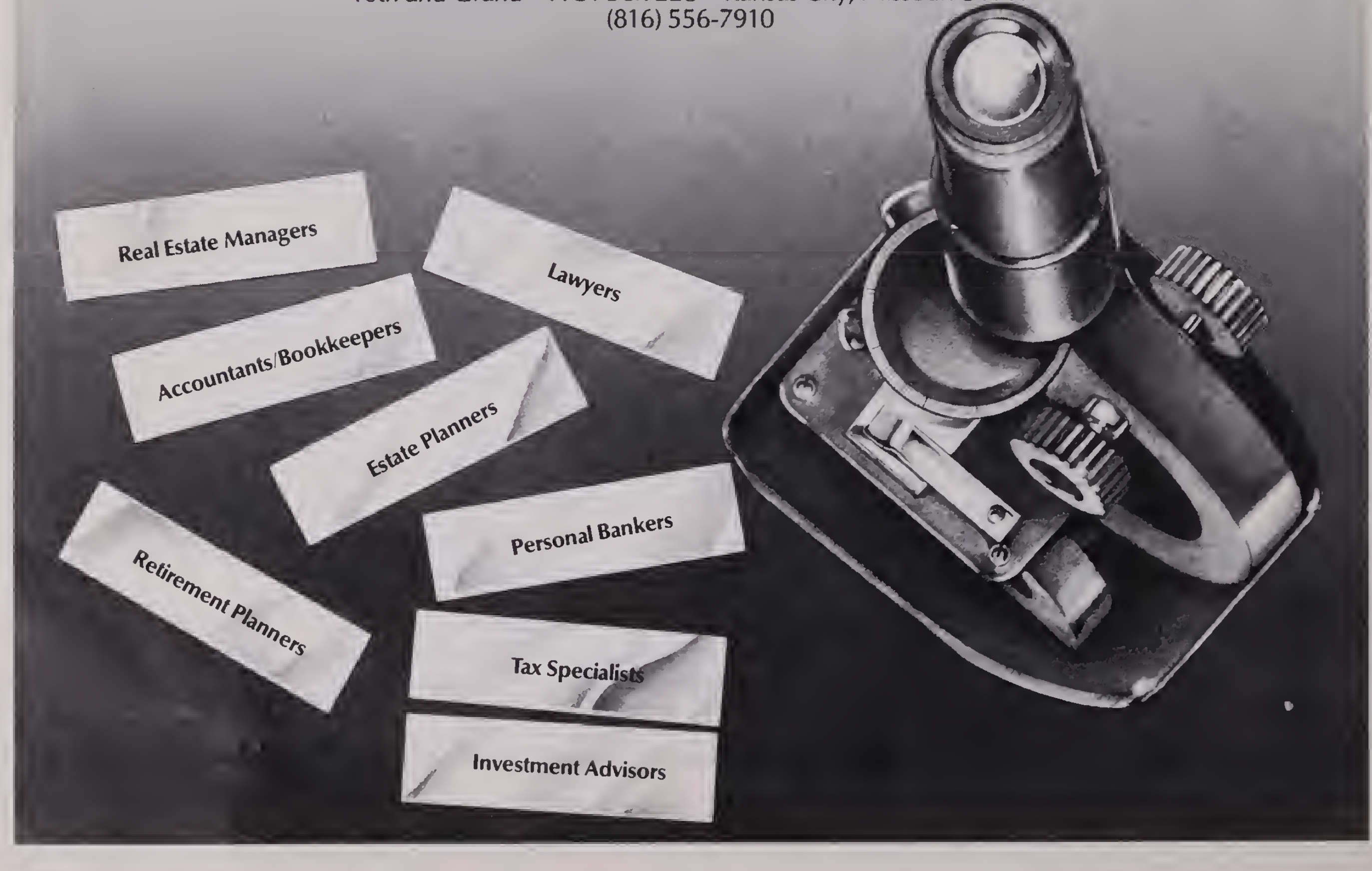
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MSMA Auxiliary

During my preparation for MSMA Auxiliary work in this year ahead, I have attended many meetings and heard many speeches. Speakers I heard have included President Ronald Reagan; HHS Secretary Heckler; AMA Representatives Drs. Sammons, Jirka, Boyle, Rial, Coury; and many other authorities. One theme remained constant: "Medicine Is Changing" and unhappily so. With a physician husband who has always enjoyed independence and satisfaction in his practice and, especially, with four sons entering the health field, I did not want to hear the negative aspects of these changes.

After every major speaker at our February AMA Auxiliary Leadership Confluence in Chicago mentioned the book, "Megatrends" by John Naisbitt, I felt compelled to learn the author's version of change as well as to do additional reading on this subject. I have concluded that there is hardly anything that is not changing. The shift to becoming an information society with computer skills causing far-reaching consequences in this "high-tech" world is already widely evident. Even the robots created by man are making other robots to do the job of man. Along with high technology comes the *need* for "high touch," the counterbalancing human response, according to Naisbitt.

Mrs. Richard Bowles
President

A recent green AMA *News Letter* stated that the respondents to a survey regarding the image of physicians generally had a positive image of their own personal physicians. The most negative images were those least related to personal experience and most related to secondary information, particularly from the media. I was reminded of this while seeing a top box office movie, "Terms of Endearment," in which two physicians were portrayed as cold and unfeeling. In contrast, just recently I personally experienced the caring "touch" demonstrated by three very fine doctors. How could anyone who knows doctors like these and their fine work ever have a negatve image of the physician?

The physician's spouse can have an important effect on the image of the doctor in the community. We are proud of our doctors and want to help them in every way possible. We are fond of calling ourselves the "volunteer arm" of the Missouri State Medical Association.

This year, the Auxiliary will follow the lead of the AMA and AMA Auxiliary, as we focus attention on pre- and postnatal care. Fetal Alcohol Syndrome is the third most common cause of mental retardation due to birth defects, and it is entirely preventable. We need to extend our helping hand in the education process.

We also plan to address the growing issue of high-tech stress and its deteriorating effect on communication within the family. In addition, plans are in progress to continue our ongoing worthwhile projects regarding children and youth, drug abuse, organ donation, drunk driving, teenage pregnancy and other programs. Realistically, we cannot greatly affect the tide of change sweeping our society, but we can become more knowledgable and helpful and, perhaps, have a positive influence on the attitude toward physicians through public awareness.

I have called on the Auxiliary members to "harmonize" this year — to sing out and lift voices to be heard for the cause of medicine. The old quotation that "music has charms to soothe a savage breast . . ." might apply. It would seem there are many savage breasts to be soothed. We would like to think they could hear our "music" when, as a group and individually, we provide meaningful volunteer services.

Physicians' can furnish that "high touch" in the medical field to balance "high tech." Changes will come and go, but the caring concern you give — your "touch" can never be replaced by robots!

BARBARA HOSKINS, *Jefferson City*

Freestanding Emergency Centers

Part One — An Excerpt From a Study of Missouri Health Maintenance Organizations, Preferred Provider Organizations, Hospital Satellite Clinics and Freestanding Emergency Care Centers

Within the past decade, a new type of medical care facility has emerged. Known generically as "freestanding emergency centers" (FECs), they are becoming an increasingly important segment of the health care delivery system.

The number of such facilities nationwide has grown rapidly from an estimated 80 in 1978 to an estimated 600 in 1982. By 1990, the National Association of Freestanding Emergency Centers projects that the number of FECs in the United States will reach 4,500.[1]

In Missouri, there is neither licensure nor regulation of FECs as health facilities and, thus, there is no legal definition of what is (and what is not) a freestanding emergency center. Despite the inherent difficulty of counting something that is not clearly defined, it is clear that Missouri, too, is experiencing growth of this industry.

The working definition used in this study is as follows:

- Provides physical facilities separate from a hospital facility
- Provides emergency care and/or episodic illness and injury care
- Is open at least 70 hours per week or open seven days per week

Twenty facilities (including one preoperational) meeting these criteria were identified by the end of 1983.

Freestanding emergency centers tend to be an urban/suburban phenomenon and, for the present, are much more common in the St. Louis area than in the rest of the state. Thirteen of Missouri's FECs are located in the St. Louis Standard Metropolitan Statistical Area (but none in the City of St. Louis itself). The Kansas City SMSA contains three, while the Springfield and Columbia SMSAs contain two each.

Not-for-profit hospitals (or for-profit corporations affiliated with non-profit hospitals) own and operate eight FECs. Other types of owners/operators reported are health management firms, individual physicians and other individual investors.

In terms of services provided and medical conditions treated, FECs clearly play a dual role by seeing some patients who might otherwise go to a hospital emergency room (those with fractures, sprains, lacerations, etc.) and some who would almost certainly go to a private physician's office. (Most FECs perform adult physical examinations and immunizations, and they provide well-baby care.) Common illnesses (repiratory tract infections; ear, nose and throat conditions and "flu") typically rank among the five types of conditions most commonly treated, as do injuries (fractures and sprains, lacerations and suturing).

Laboratory capabilities vary from one FEC to another, but all report some laboratory services on site. Complete blood counts, urinalysis, pregnancy tests and blood sugar tests are the types of laboratory services most commonly available. All FECs report on-premise X-ray processing and most have EKG, oxygen and suction equipment available.

Most FECs (13 of 17 responding) report one or more "emergency medicine" physicians on staff who are sometimes supplemented by family physicians and/or internists. Four FECs are staffed by only family physicians and/or internists.

There are two quite diverse types of FECs in terms of reimbursement: those that rely almost entirely on payment by the individual patient, and those that rely on various forms of third-party reimbursement. In nine FECs, 70% or more of the total reimbursement received is paid by the patient. Blue Cross, Blue Shield and commercial insurance reimbursement represent a significant source (more than 50%) for three FECs. Medicaid, Medicare-Part B and Workmen's Compensation are also reported as reimbursement sources by some (but not all) FECs.

This important question of reimbursement is still to be resolved. Are "freestanding emergency centers" to be reimbursed as if they were hospital emergency rooms or as if they were any other doctor's office? An informal telephone survey of five major carriers was conducted. Responses varied, with the only commonality being "it depends." It depends on the specific carrier and the specific policy provisions; it may depend on whether the FEC is hospital-affiliated or independent; it may depend on the type of claim (illness-related vs injury-related); it may even depend on the time of day or day of week a service was rendered.

As stated earlier, "freestanding emergency center" is a generic term. "Urgent treatment center," "minor emergency center," "immediate care center" and similar phrases are also commonly used in discussing these facilities. But these terms focus on the "emergency treatment" side of these centers, most of which also provide a great deal of nonemergency care. "No appointment" medical centers or "access clinics" are other terms sometimes used to describe these or very similar practice settings.

A recent article used the phrase "private physicians' offices where emergency medicine is practiced."[2] This appears to fairly accurately describe the dual function of these facilities, namely provision of routine care as well as emergency care.

The working definition we used — "open seven days per week and/or a minimum of 70 hours per week" — is admittedly arbitrary. One of the resources used to identify FECs was a collection of telephone books. Several cities contain "clinics" or physicians offering evening hours, Saturday hours and "no waiting" with laboratory/X-ray/EKG on the premises. Convenience characterizes FECs, but does not clearly differentiate between FECs and many "private" practice settings.

The proliferation of this new industry indicates that it is filling a need that is not being met by the more traditional providers of outpatient services. It also seems likely that growth will continue if given the increasing competition for the medical care dollar.

INTRODUCTION

"*Resolved,* that the Missouri State Medical Association, through its Commission on Medical Economics, Third Party Medicine and Governmental Relations, monitor Health Maintenance Organizations, Individual Practice Associations, Preferred Provider Organizations and hospital satellite clinic practices in this State for the next five years, reporting annually to the Council on the extent of this type of activity and assess, as far as possible, the overall impact that it has on the medical profession in the State of Missouri."*

The above Resolution #2 was adopted at the 1982 Annual Convention of the Missouri State Medical Association. The first part of the five-part series was presented to the MSMA Council in January, 1983. It set forth definitions to be used throughout the series and a directory of all known entities.

Part Two was completed in March, 1984 and provides the results of an indepth survey conducted during the summer and fall of 1983. The survey was made of these entities to learn how they are structured, their length of operation, the benefits and services offered, and their financial operations.

While the full report is available to MSMA members, a summary of this report will be presented in MISSOURI MEDICINE. In this issue, the first part of the four-part series examines freestanding emergency centers.

Mrs. Hoskins is Director, Bureau of Health Resources Statistics, Missouri Center for Health Statistics, Missouri Division of Health.

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* In 1982, the Commission on Medical Economics broadened the scope of the entities to be studied to include freestanding emergency centers.

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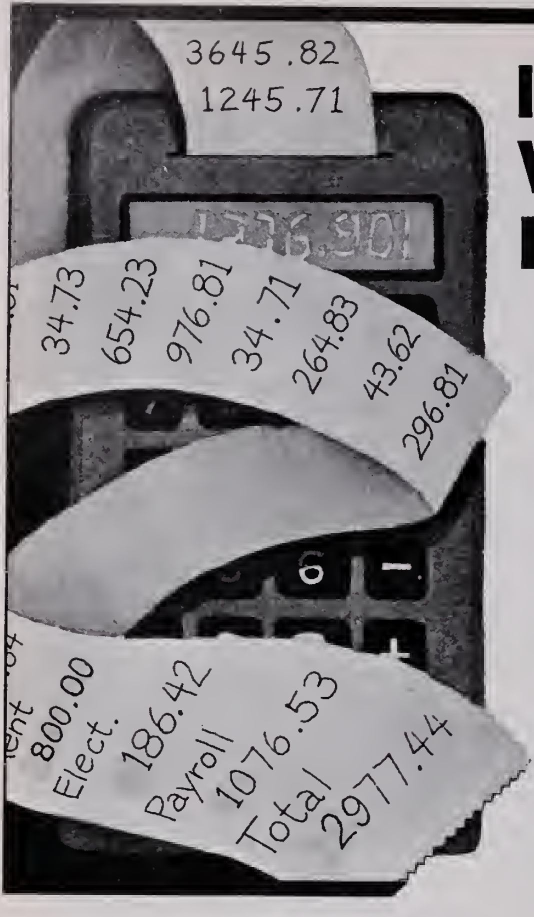

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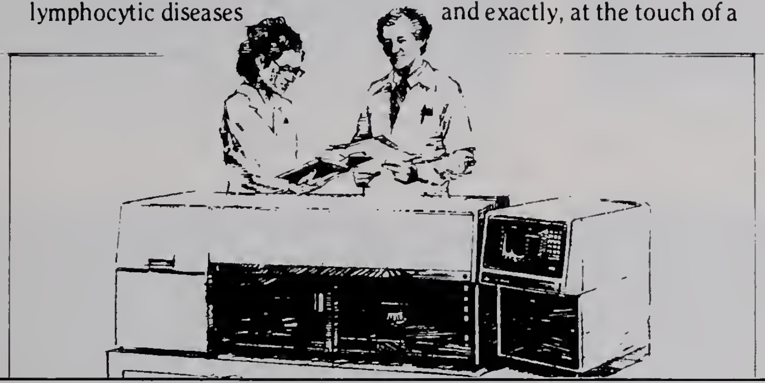

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Missouri Legislators Are Guests of MSMA Auxiliary

John I. Matthews, Chairman of the MSMA Committee on Legislative Affairs, discusses aspects of legislation for the guests. At his left are Sen. John Scott and Mrs. Donald Sanders, President of the MSMA Auxiliary.

Sen. John Scott (3rd District), President Pro Tem of the Missouri Senate, was the principal speaker. Seated are *(left)* Mrs. Sanders and Mrs. Richard Bowles, then President-Elect of the MSMA Auxiliary.

Auxiliary President Jackie Sanders pins a flower on the lapel of Rep. Merrill Townley (11th District). Each of the guest representatives and senators received a special lapel rose.

Mrs. Sam Gaston, a past-president of the Auxiliary, welcomes Rep. Doug Harpool (134th District) *(left)* and Rep. Chris Kelly (146th District) at the Registration Desk.

Sen. James R. Strong (6th District) visits with Mrs. J. H. Schmidt of Jefferson City, one of his constituents.

Rep. Norwood Creason (28th District) ponders a "legislative question" posed by an Auxiliary member from his district.

MSMA Auxiliary Members Meet in the Capital City for 'A Day at the Legislature'

(Left to right) Mrs. Stephen Vilmer, MSMA Auxiliary Legislative Chairman; John I. Matthews, M.D., Chairman of the MSMA Committee on Legislation; and Mrs. Donald Sanders, President of the MSMA Auxiliary.

Mrs. George P. Wilson of Columbia *(right)*, a past-president of the MSMA Auxiliary, welcomes Mrs. William R. McPhee of Kansas City, who has been nominated President-Elect of the AMA Auxiliary.

March 14 was a "Day at the Legislature" for members of the Missouri State Medical Association Auxiliary. Approximately 80 physicians' wives arrived in Jefferson City by bus and auto to make their annual official visit as a group to both the Missouri House of Representatives and Senate to observe them in action and to personally get acquainted with legislators from their individual districts.

The Legislative Day was planned and organized by Mrs. Stephen Vilmer, Legislative Chairman, in view of the Auxiliary's accelerating interest in legislative activities relating to health care and their effects upon the medical profession in Missouri and nationally. The group was introduced in the Senate by Sen. Harry Wiggins (Tenth District). Awareness of the Auxiliary's interest was created for both the legislators and auxiliary members.

Highlight of the day was a Legislative Luncheon at the Governor Hotel where 45 legislators were guests of their Auxiliary-member constituents. Special guests were John I. Matthews, M.D. of Jefferson City, Chairman of the MSMA Committee on Legislative Affairs, and Sen. John Scott, President Pro-Tem of the Senate, who addressed the group. Mrs. Donald Sanders, President of the MSMA Auxiliary, welcomed the legislators. Mrs. Vilmer presided at the luncheon.

Mr. Royal O. Cooper, MSMA Executive Secretary, and other staff members also attended and assisted at the luncheon.

The legislative day began when Mr. C. C. Swarens, MSMA Assistant Executive Secretary, met the group at the Capitol Building for coffee and rolls and addressed them briefly regarding pending bills in the House and Senate.

The Auxiliary members toured the Capitol Building before the luncheon. After the luncheon, Mrs. C. Stuart Exon of Jefferson City welcomed the group at the historic Governor's Mansion as a docent and guide for a tour there.

As Legislative Chairman, Mrs. Vilmer also has created a Legislative Awards and a "Key Contact" program for the MSMA Auxiliary. Members of the latter group were effective in their efforts to contact their legislators in regard to the Child Auto Restraint Bill, which was approved.

During her term of office as president, Mrs. Sanders served as a member of the MSMA Committee on Legislative Affairs. Mrs. Richard Bowles of Liberty, who was elected president at the Annual Convention on March 29-April 1, now represents the Auxiliary on that committee. She is a member of Clay-Platte County Medical Society Auxiliary.

Mrs. Sanders is a member of Jackson County Medical Society Auxiliary; Mrs. Vilmer is a member of Clay-Platte County Auxiliary; and Mrs. Exon is a member of Cole County Auxiliary.

Mrs. Sanders stated that the MSMA Auxiliary plans to continue the Legislative Day as an annual event and incentive to greater knowledge of government and participation in legislative matters relating to health care.

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Letters

To The Editor:

DRGs

Urban vs Rural Categories

Unequal Pay for Comparable Service or Comparable Pay for Unequal Service?

It seems that the technique of "divide and conquer" continues. In addition to hospital vs staff, doctor vs patient, surgeon vs internist, etc., the federal government has put a new emphasis on an old distinction. Laws to institutionalize the urban/rural difference (rather than minimize it) are already here, and the ramifications were becoming apparent in the discussions at our recent MSMA convention (March 29-April 1, 1984, St. Louis).

We heard the example of the community hospital that under the current DRG formula, it will shortly be paid more than 40% less for the care of similar patients with identical DRGs than the "urban" hospital 20 miles away. The rural hospital says many of the urban hospital's costs are actually lower because of mass buying and economies of scale. The urban hospital says it has to provide more services, pay higher wages, etc. The physicians are worried that the DRGs will be extended to doctors' offices or that the total payment will be given to the hospital and the hospital will pay the doctor. What about the suburban doctor who practices in both a "rural" and an "urban" hospital? What about the large group with a satellite clinic in a small town? The rural doctor and hospitals say their malpractice costs, computer, supplies, etc. and most other expenses are just as high as their city counterparts. One even quoted a *Medical Economics* survey supposedly supporting this comparison.

The city hospital and physician argue that if there are 12 individual diagnoses in a particular DRG and reimbursement is based on the average cost, they will be hurt because they will get more of the complicated and, therefore, more expensive diagnoses in the group. They are afraid that the smaller hospitals and especially private hospitals will "cost shift," i.e. "punt," the more expensive cases to them. The rural hospitals are afraid they will be forced to care for complicated and expensive cases that they cannot handle efficiently. The rural providers say their patients pay the same tax and insurance rates as their urban counterparts. The list of arguments goes on and on.

I submit that the problem is not in the stars, ourselves, "urban" doctors or hospitals, or "rural" doctors or hospitals. The problem is in a system that takes apples and oranges and calls them fruit. By nature, the range of diagnoses in a group will be unequal, the percentage of "outliers" or unusually expensive cases will vary, abilities to provide efficient care for certain diagnoses will be different, etc. Some of the "fruit" will be more expensive and nobody wants to be forced to provide an unequal share of it.

So if one accepts the premise (should I say "fact") that the DRGs will treat unequal cases as equals, then we have a new problem forced on us, institutionalized, and made virtually unsolvable. Either the "urban" provider will sometimes get comparable pay for unequal service or the "rural" provider will *always* get unequal pay for comparable service.

It seems to me that to solve the problem, we need to more clearly define the service and be more specific in both the diagnoses and the costs. But then . . . isn't that what we do now?

Edwin J. Masters, M.D.
Sikeston

Miles C. Whitener, M.D.
President
Missouri State Medical Foundation

Dear Dr. Whitener:

It is with deep gratitude that we would like to thank the Foundation for accepting us as loan recipients this year. The financial assistance is of great aid to us at this time. We wish to express our appreciation to you, the Foundation and the physicians of Missouri who have strived to maintain this loan fund.

Sincerely,
Jane D. Reardon
Thomas M. Reardon
Medical Students
University of Missouri-Kansas City

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The Missouri State Medical Foundation is classified by the Internal Revenue Service under 509(a)(3). Individuals may deduct up to 50% of their adjusted gross income for contributions made to the MSMF.

MSMA Members Receive Physician's Recognition Award

Sixty MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of March, 1984.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

R. Philip Acuff, St. Joseph
Raymond B. Anderson, Kansas City
Dallas D. Anthony, Springfield
Warren C. Baker, Savannah
Armindo G. Baula, St. Louis
Deo K. Bhati, Salem
Peter C. Boylan, Kansas City
Robert V. Brennan, Kirkwood
Frances S. Brown, Lee's Summit
John S. Carlson, Kansas City
Jean A. Chapman, Cape Girardeau
Stephen W. Churchill, Kansas City
John B. Crane, Washington
Richard L. Cronemeyer, Kansas City
Robert H. Durie, Kansas City
Devera M. Elcock, Chesterfield
Donald R. Germann, Kansas City
Wallace H. Graham, Kansas City
George G. Guerra, Kansas City
Rashid S. Hamid, Marshall
Drew W. Hause, Kansas City
John K. Holcomb, Cape Girardeau
William C. Hummel, St. Louis
Richard D. Jacobs, Ballwin
Ronald C. James, Columbia
Julius M. Kanton, Kansas City
Andrew B. Kaufman, Kansas City
Fred R. Kennedy, Kansas City
Lawrence L. Koppers, Kansas City
James L. Lord, Independence
H. Richard McFarland, Kansas City
Charles P. McGinty, Cape Girardeau
John J. McNamara, St. Louis
Robert J. Meegan, Kansas City
Samuel A. Montello, Kansas City
Paul Moss, Kansas City
Everett M. Murphy, Kansas City
Sidney F. Pakula, Kansas City
Kerrin T. Papreck, Marshall
Lilliam G. Pardo, Kansas City
James F. Piontek, Liberty
Seoung E. Rhee, St. Louis
Dean D. Richards, Kansas City
William R. Richardson, Union
Robert M. Ross, Kansas City
Thomas E. Ryan, St. Louis
Floyd E. Sawyer, Kansas City
Thomas F. Scully, St. Louis
Michael B. Sheehan, Kansas City
Barry A. Siegel, St. Louis
Sanford Simon, Kansas City
Joe E. Spurney, Kansas City
Frederick C. Stidman, Joplin
Edward H. Stratemeier, Blue Springs
Donald W. Thibeault, Kansas City
Enrique Vera, Kansas City
Gary K. Walker, Springfield
Joseph A. Werth, Jefferson City
Mardonio J. R. Yap, Florissant
Charles H. Zerr, Independence

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category 1 credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

Mercy-Baptist Eye Foundation
621 S. New Ballas Rd., Suite 5006, St. Louis 63141
(314) 432-5478
***Contact:* Mrs. Judi Kramer, Coordinator**

May 20	17th Eye Seminar — The Retinal, Fluoroscein and Laser

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

May 25-26	International Symposium on Trauma to the Facial Skeleton (Westin Crown Center Hotel)
June 2	Symposium on Physical Fitness (Westin Crown Center Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
***Contact:* Anita Herbst**

May 23	Sixth Annual Poisoning Seminar St. Louis Poison Center (Location pending)
June 2	ECCE & PCL Workshop of Ophthalmologists

Missouri Chapter, American College of Surgeons
P.O. Box 4562, Springfield 65808
(417) 882-7390 or (417) 887-1970
***Contact:* Linda Wheelen Executive Secretary**

June 8-9	1984 Annual Professional Meeting (Clarion Hotel, St. Louis)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

May 17-19	Extracapsular Cataract Extraction — Implantation of Intraocular Lenses
May 21-22	Early Breast Cancer
May 24-25	Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 7-8	Advanced Trauma Life Support
June 20	Daniel C. Darrow Education Day (Pediatrics)
July 26-27	Advanced Trauma Life Support
Aug. 2-5	Third Annual KU Summer Medical Symposium Medicine for the Practicing Physician (Broadmoore Hotel, Colorado Springs)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

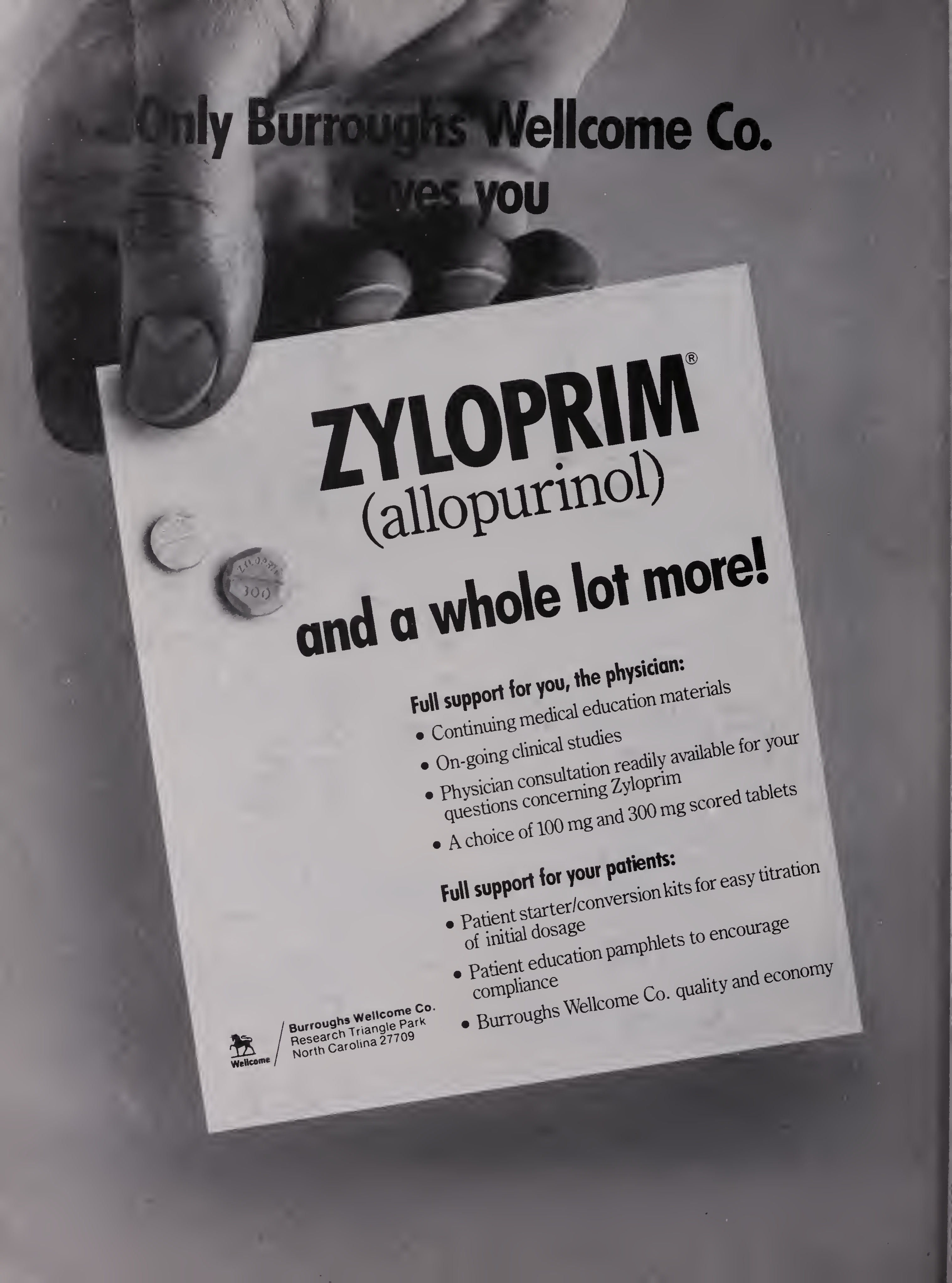
May 21-25	Diagnostic Interview Schedule Training
June 8-9	Gastrointestinal Diseases: Current Concepts and Management (The Jewish Hospital)
Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage
Nov. 9-11	11th Annual Symposium: Anesthesia and the Geriatric Patient (Marriott Pavilion Hotel)

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
***Contact:* Richard C. Barry, M.D.**

June 13-15	Symposium: Identification and Practical Approach to Evaluation and Management of Pediatric Emergencies (Tan-Tar-A Resort, Lake of the Ozarks)

Mid-Central States Orthopaedic Society, Inc. and Missouri State Orthopaedic Association
c/o 9 Laurel Dr., Wichita, KS 67206
(316) 684-6436
***Contact:* Rhoda Singleton, Executive Secretary**

June 1-3	Annual Meeting (Lodge of the Four Seasons, Lake of the Ozarks)



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NEWS From the Medical Schools

ST. LOUIS UNIVERSITY

William Stoneman III, M.D., dean of the School of Medicine, announced a decision by the School of Medicine administration and faculty to freeze fees for one year for patient services charged by the school's full-time faculty.

The decision involves more than 350 physicians who hold faculty titles and practice at St. Louis University Hospitals or other institutions in the area affiliated with the School of Medicine.

Dr. Stoneman stated that the decision was a response to the recommendations made earlier this year by the American Medical Association Board of Trustees for a moratorium on price increases in health care. Dr. Stoneman's decision was made two days prior to the Missouri State Medical Association's decision to freeze fees.

Raymond G. Slavin, M.D., director of the Division of Allergy and Immunology, has been named president-elect of the St. Louis Society of Internal Medicine. Dr. Slavin also holds the rank of professor in the Department of Internal Medicine and the Department of Microbiology. He has just left the position of president of the American Academy of Allergy and Immunology and is currently serving as treasurer of the American Board of Allergy and Immunology.

A $213,000 grant from the division of research resources of the Department of Health and Human Services has enabled the department of pathology at the School of Medicine to obtain a flow cytometer to help in matching tissues for organ transplants, diagnosing various categories of leukemia and other medical work where evaluation of individual cells is crucial.

The grant's awardee is *David Lagunoff,* M.D., chairman, Department of Pathology. *Stanford Roodman,* Ph.D., assistant professor of pathology, is director of the Flow Cytology Laboratory.

The cell sorter is an advanced model, with the capacity to analyze and separate 5,000 cells per second. The cells can be analyzed for four different variables simultaneously. The results of the analysis are then displayed on an attached video display terminal.

William Friedman, M.D., chairman of the Department of Otolaryngology, addressed head and neck surgeons at a meeting in Hungary at the Szeged University of Medical Sciences. Dr. Friedman sees his work as having a dual role of preserving and restoring the physiologic function of the head and neck structures as well as restoring the patient's appearance.

Dr. Friedman discussed recent advances in cosmetic facial plastic surgery as well as new surgical techniques for reconstruction of the head and neck area in cancer patients. These include his new technique for reconstruction of the vocal cords following near-total removal of the voice box. He also discussed his research on the genetic components of head and neck cancer and cosmetic techniques, such as the "four-angle" face lift.

Robert M. Cunningham, Jr., editorial consultant to the Blue Cross and Blue Shield Association and noted author on health care, gave the 12th Annual Rev. John J. Flanagan S. J. Lecture in Hospital Administration. His lecture was titled "New Directions in the Era of Competition."

Mr. Cunningham said that government and industry are insisting on drastic action to cut down costs. He added, "Sites for care and payment arrangements are all changing so that price will be the leading measure of value. Those who meet the new demand will survive; those who do not, will not survive."

Carlos B. Hirschberg, Ph.D., associate professor of biochemistry, has been named a member of the Scientific Advisory Committee on Biochemistry and Chemical Carcinogenesis of the American Cancer Society. Dr. Hirschberg will serve a term of four years.

WASHINGTON UNIVERSITY

Two researchers in the Psychiatry Department have received a grant of more than $800,000 to evaluate an innovative national program for delivering health care to young people.

Recipients of the three-year grant are *Felton Earls,* M.D., Blanche F. Ittleson Professor and director of the Division of Child Psychiatry, and *Lee N. Robins,* Ph.D., professor of sociology in psychiatry.

The grant was awarded by the Robert Wood Johnson Foundation to evaluate a program it started three years ago to improve health care for young people and training in the new discipline of adolescent medicine. Twenty academic medical centers from throughout the nation are participating in the foundation's Program to Consolidate Health Services for High-Risk Young People.

"Each of these centers is trying to consolidate mental health and physical health services," Earls said. "The constraints imposed by large medical centers frequently result in fragmented services for youth. A pregnant teenager admitted to an obstetrics clinic may get satisfactory prenatal care while an ongoing depressive illness goes either undetected or untreated. Truly comprehensive care could have a profound impact on adolescents."

Drs. Earls and Robins will study the program's success in decreasing occurrences of and deaths from accidents, suicide, homicide, depression, early pregnancy, venereal diseases, alcoholism and drug abuse. "All of those problems have been documented as increasing in frequency among adolescents nationally," Dr. Earls said.

According to Dr. Earls, the results could have a major impact on academic medicine and physician training, especially in the emerging discipline of adolescent medicine. Also, he said that the results could affect government policy on appropriations for adolescent health care and perhaps encourage consolidation efforts between private and public agencies.

Dr. Earls is on the staff at Barnes, Children's and Jewish hospitals. All are sponsoring institutions of the Washington University Medical Center.

Ceremonies were held on April 6 to dedicate the Washington University/Barnard Cancer Center, the first outpatient facility in the Midwest to offer comprehensive care for patients with cancer or blood-related diseases.

Ceremonies included a slide presentation, reception and tours of the cancer center, located on the third floor of Barnard and Wohl hospitals.

The dedication lecture was delivered by *E. Donnall Thomas*, M.D., an internationally recognized hematologist who is head of the Division of Oncology at the Unviersity of Washington School of Medicine and director of medical oncology at the Fred Hutchinson Cancer Research Center in Seattle, Wash. Title of his address is "Bone Marrow Transplantation for Malignant Disease."

All physicians associated with the Barnard Cancer Center are specialists in hematology or oncology. The staff includes medical doctors, surgeons, radiation therapists and nurses trained in treating cancer patients, as well as clinical research physicians studying new treatments for advanced or untreatable forms of the disease. Because the staff is a multidisciplinary group, patients can benefit from several professional opinions in a single visit and from the center staff's interaction with referring physicians.

William J. Catalona, M.D., has been appointed chief of the Division of Urology in the Department of Surgery at the School of Medicine.

Dr. Catalona will serve as urologist-in-chief at Barnes, Children's and Jewish Hospitals. He also holds appointments at John Cochran Veterans Administration Hospital and St. Louis County Hospital.

Dr. Catalona joined the Washington University School of Medicine faculty in 1976 as an associate professor in urology and was named professor in 1982. A specialist in cancer diagnosis and treatment, he has researched the relationship between tumor growth and the body's natural defense mechanisms. He has written extensively on the management of bladder and prostate cancer through chemotherapy and surgery. Recently, he has evaluated the promise of interferon as an anticancer drug.

The Biomedical Computer Laboratory at the School of Medicine hosted a Computer-Based Education workshop on April 1.

The workshop was offered in conjunction with the 68th annual meeting of the Federation of American Societies for Experimental Biology (FASEB). An estimated 35,000 scientists were expected to attend the convention on April 1-6 at the Cervantes Convention Center and at various downtown hotels in St. Louis.

UNIVERSITY OF MISSOURI-KANSAS CITY

The University of Missouri-Kansas City School of Medicine logged the best results in its history in the 1984 Residency Match with 97% of its 74 participating students matched. This compares to a 92% national match average. In a year of increasing competition for residencies, the results were considered especially noteworthy. Eighty-three percent of the UMKC students received their first or second choice; 64% chose primary care fields of medicine.

Lee Willoughby, director of Evaluation and Computer Resources, was the recipient of the School of Medicine's Outstanding Administrative

Service Award. The award is presented annually and involves selection by peers. Key accomplishment areas for nominees include leadership, creativity and innovation, professional development, and organization and management. Mr. Willoughby is credited with the School of Medicine's increase from a few microcomputers to a micro-center full of microcomputers. He was honored with an award ceremony, where he received a plaque and a check for $500. A reception followed.

Several UMKC students have received awards recently. *Anthony J. Spaedy* of Bunceton was the recipient of the Southern Medical Association scholarship, and *James S. Vales* of Ferguson was awarded a scholarship by the Philippine Medical Association Scholarship Foundation of St. Louis. *Robert T. Tung* is the winner of the William J. and Dorothy Fish Kerr Student Fellowship in Clinical Cardiology. He will spend two months this year on a clinical research project in a San Francisco hospital.

In addition, three UMKC students' research projects were selected for presentation at the Fifteenth Annual Midwest Student Medical Research Forum. *Ian K. Hornstra* of Kansas City, *Kenneth Sonnenschein* of Clayton and *Timothy V. Myers* of Kansas City participated in the event held at the University of Wisconsin-Madison.

Frank D. Popp, Ph.D., recipient of UMKC's 1983 N. T. Veatch award for distinguished research and creative activity, spoke on "A Search for Compounds of Medicinal Interest" on April 2. A public lecture during the year of recognition is one of the Veatch award's stipulations. Dr. Popp, professor of medicine and professor and chairman of the Department of Chemistry, has numerous professional affiliations, honors and professional activities. He has presented nearly 65 papers in Europe, Asia and the Americas and has completed more than 160 publications since joining UMKC's Chemistry Department in 1976.

Three research projects of the School of Medicine faculty members received funding under the UMKC Weldon Spring Endowment Fund. Awards went to *Barbara Nohinek*, M.D., *Timothy Schubert*, M.D. and *Michael Thompson*, M.D. and to *Timothy Schubert*, M.D., for a second project in collaboration with *Joel Covinsky*, Pharm.D., *Beaty Pemberton*, M.D. and *Mahendra Rupani*, M.D.

The UMKC Surgical Society recognized *Ray Snider*, M.D., chairman of the Department of Surgery at Truman Medical Center, and *Beaty Pemberton*, M.D., vice-chairman, for ten years of service. The two physicians were recognized for having brought stability to the Department of Surgery.

The University of Kansas City Trustees recently brought two visiting professors to the School of Medicine. *William Jollie*, Ph.D., professor and chairman of the Department of Anatomy at the Medical College of Virginia, presented two seminars during his March 26-28 visit. Dr. Jollie's major research activities are in the area of female reproductive biology. He also has been active as secretary-treasurer of the American Association of Anatomists. *Gerhard Levy*, Pharm.D., spoke on "Kinetics of Drug Action" on April 12. Dr. Levy is director of the Clinical Pharmokinetics and Biopharmaceutics Research Center at the State University of New York. He recently was named the first recipient of the Takeru Higachi Research Prize in recognition of his contributions to pharmaceutical research.

UNIVERSITY OF MISSOURI-COLUMBIA

The University of Missouri-Columbia (UMC) School of Medicine Alumni Awards Luncheon was held during the Annual Convention of the Missouri State Medical Association in St. Louis on March 29-April 1.

Dr. Jack M. Martt, professor of internal medicine at Texas A&M University College of Medicine and chief of the Division of Cardiology at the Scott and White Clinic in Temple, Tex., was the 27th recipient of the UMC Alumni Association's Citation of Merit in medicine.

Dr. Martt graduated from UMC's two-year medical school in 1944 and received his medical degree at Washington University in St. Louis. He later joined UMC's new four-year medical school as an assistant professor in 1956 and achieved the rank of full professor in 1965.

Dr. Martt began the cardiopulmonary laboratory at the UMC Medical Center where cardiac catheterization procedures were first instituted under his supervision. Within a year of his arrival, the first open heart operation had been performed.

Dr. Loren E. Golitz, associate professor of dermatology and pathology at the University of Colorado School of Medicine, received the Young Physician's Award. Dr. Golitz also is the chief of dermatology and assistant medical director for Denver General Hospital.

He earned the M.D. degree from UMC in 1966 and served his residency in internal medicine and dermatology at U. S. Public Health Service Hospitals in San Francisco and Staten Island, N. Y.

He has been the principal investigator on a mycosis fungoides study since 1974 and a project investigator on a clinical cancer education grant at the University of Colorado School of Dentistry since 1978.

Receiving honorary membership in the UMC School of Medicine Alumni Association was *Dr. C. Thorpe Ray*, a former long-time faculty member at UMC who had served as chairman of the Department of Medicine. He recently retired as chairman of the Department of Medicine at Tulane University School of Medicine, but he continues to serve as a professor there.

Ronald A. Youmans M.D. of Kansas City, immediate past-president of the Missouri State Medical Association, was given an associate membership.

Dr. Karl D. Nolph, professor and director of the Nephrology Division in the Department of Medicine, received a three-year grant of $414,159 from the National Institutes of Health to study multicenter evaluation of continuous ambulatory peritoneal dialysis.

Dr. Harold E. Carlson, associate professor of endocrinology and metabolism in the Department of Medicine, presented a paper, "Prolactin Stimulation by Meals is Related to Protein Content," at the 65th annual meeting of the Endocrine Society in San Antonio, Tex.

Dr. Richard Whiting, associate professor of cardiology in the Department of Medicine, presented an abstract, "Wheelchair Exercise Testing: Comparison of Continuous and Discontinuous Tests" at the annual Paul Dudley White Society Meeting at Massachusetts General Hospital in Boston.

Dr. James T. Barrett, professor of microbiology, is the author of *Textbook of Immunology*, fourth edition, published by C. V. Mosby Co. of St. Louis.

Dr. Robert R. Willard, assistant professor of physical medicine and rehabilitation, served as physician adviser from the American Medical Association on the Occupational Therapy Curriculum Accreditation Team.

Dr. Ronald H. Freeman, associate professor of physiology, was awarded a three-year grant for $208,544 from the National Institutes of Health for research on "Humoral Factors in Hypertension and Heart Failure."

Dr. Armando R. Favazza, professor and chief of the General Psychiatry Section, presented lectures on the cultural context of self-mutilation to the West Virginia State Medical Society and the Medical College of Georgia in Augusta, where he was a visiting professor. He also was appointed as representative of the Society for the Study of Psychiatry and Culture to the Transcultural Psychiatry Section of the World Psychiatric Association.

Dr. Mark Edward, associate professor of radiology, has been appointed to the National Council on Radiation Protection and Measurements (NCRP). He is the chairman for a NCRP committee studying implementation of the ALARA (as-low-as-reasonably-achievable) concept for radiation levels encountered by personnel in clinical radiology and dentistry.

Dr. Jack Curtis, professor and chief of cardiothoracic surgery, received a $19,895 grant from the American Heart Association, Missouri Affiliate, for continued investigation into "Atrial Transport and Hemodynamics in Man." He also presented results of research in this area at the Seventh World Symposium on Cardiac Pacing in Vienna, Austria.

Dr. Joseph Walls, assistant professor of surgery, presented a paper on "Changing Operative Mortality in Complex Valvular Heart Disease: Influence on Myocardial Preservation Technique" at the 16th World Congress of the International Society for Cardiovascular Surgery in Rio de Janiero, Brazil.

In Memoriam

Frank B. Matteson, M.D., 1105 S. High, Grant City 64456; graduate of St. Louis University, 1943; member of Northwest Missouri Medical Society; aged 63; died Dec. 28, 1983.

Gip Railey Hudson, M.D., 201 S. Main, Huntsville 65259; graduate of Northwestern University, 1941; member of Chariton-Macon-Monroe-Randolph County Medical Society; aged 69; died March 16, 1984.

Adolph C. Lange, M.D., 6536 Devonshire, St. Louis 63109; graduate of Washington University, 1930; member of St. Louis Metropolitan Medical Society; aged 77; died March 17, 1984.

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Introducing Our New MSMA Members

Sunil M. Apte, M.D., 800 E. 5th, Suite 305, Washington 63090, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Apte is a native of Kolhapur, India, received his preliminary education at the University of Bombay and his M.D. degree at the University of Bombay in 1969. He specializes in general surgery.

Robert T. Brodell, M.D., 4400 Lindell, #8J, St. Louis, 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Brodell is a native of Rochester, N.Y., received his preliminary education at Washington and Jefferson College and his M.D. degree at the University of Rochester in 1979. He specializes in dermatology.

Sharon Carmignani, M.D., 1 Hospital Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Carmignani is a native of Pasadena, Tex., received her preliminary education at Rice University and her M.D. degree at the University of Missouri-Columbia in 1978. She specializes in internal medicine.

Frederick A. Dalgleish, M.D., 1513 Union Ave., Moberly Professional Arts Bldg., Moberly 65270, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Dalgleish is a native of Loma Linda, Calif., received his preliminary education at Walla Walla College and his M.D. degree at Loma Linda University in 1976. He specializes in obstetrics and gynecology.

James E. Duff, M.D., Springfield Clinic of Internal Medicine, Professional Building, Springfield 65806, has become a member of Greene County Medical Society. Dr. Duff is a native of Ft. Wayne, Ind., received his preliminary education at Southwest Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in internal medicine.

Joycellen Floyd, M.D., Bridge & Rucker Sts., Keytesville 65261, has become a member of Howard County Medical Society. Dr. Floyd is a native of Kansas City, received her preliminary education at Park College and her M.D. degree at the University of Missouri-Columbia in 1980. She specializes in family practice.

Frank H. Gafford, M.D., Suite 2002, Tower B, 621 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Gafford is a native of Birmingham, Ala., received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Alabama in 1972. He specializes in internal medicine and cardiovascular diseases.

William J. Hamilton, D.O., 2700 McClelland Blvd., Building B, Suite 203, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Hamilton is a native of Indianapolis, Ind., received his preliminary education at Purdue University and his D.O. degree at the College of Osteopathic Medicine and Surgery-Des Moines in 1972. He specializes in neurology.

Barbara K. Holmes, M.D., 1147 E. 77th, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Holmes is a native of Kansas, received her preliminary education at Wichita State University and her M.D. degree at the University of Kansas in 1980. She specializes in emergency medicine.

James F. Lillig, D.O., 4110 N.E. Vivion Rd., Kansas City 64119, has become a member of Clay-Platte County Medical Society. Dr. Lillig is a native of Kansas City, Kan., received his preliminary education at Rockhurst College and his D.O. degree at Kansas City College of Osteopathic Medicine in 1960. He specializes in general practice.

James E. Lynch, M.D., 3401 Berrywood, Suite 103, Columbia 65201, has become a member of Boone County Medical Society. Dr. Lynch is a native of Detroit, Mich., received his preliminary education at the University of Oregon and his M.D. degree at the University of Oregon in 1970. He specializes in radiology.

John H. Montgomery, M.D., 2727 McClelland Blvd., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Montgomery is a native of Ft. Worth, Tex., received his preliminary education at Austin College and his M.D. degree at the Universidad Autonoma De Guadalajara in 1979. He specializes in emergency medicine.

Hugh Jerry Murrell, M.D., 1502 E. Broadway, Room 102, Columbia 65201, has become a member of Boone County Medical Society. Dr. Murrell is a native of Tyler, Tex., received his preliminary education at Rice University and his M.D. degree at the University of Texas Medical Branch, Galveston in 1962. He specializes in therapeutic radiology.

Mohammed Muzaffaruddin, M.D. 11978 Charter Oak Parkway, St. Louis 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Muzaffaruddin is a native of India, received his preliminary education at Osmanie University and his M.D. degree at Osmanie University in 1963. He specializes in anesthesiology.

Leonard J. Pittala, D.O., 2700 Kendallwood Parkway, Gladstone 64119, has become a member of Clay-Platte County Medical Society. Dr. Pittala is a native of Kansas City, received his preliminary education at the University of Missouri-Kansas City and his D.O. degree at Kansas City College of Osteopathic Medicine in 1982. He specializes in pediatrics.

Mary J. Prouty, M.D., 2 East 39th, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Prouty is a native of Indianapolis, Ind., received her preliminary education at St. Louis University and her M.D. degree at St. Louis University in 1976. She specializes in general surgery.

Kerry A. Randolph, M.D., Medical Tower, Suite 805, 1443 N. Robberson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Randolph is a native of Maquoketa, Iowa, received his preliminary education at Iowa State University and his M.D. degree at Creighton University in 1977. He specializes in internal medicine.

Henry D. Rodeffer, M.D., 7622 Ravensridge, St. Louis 63119, has become a member of St. Louis Metropolitan Medical Society. Dr. Rodeffer is a native of Fernandina Beach, Fla., received his preliminary education at Vanderbilt University and his M.D. degree at the University of South Florida in 1980. He specializes in internal medicine.

George A. Saleh, D.O., 5140 N.E. Antioch Rd., Kansas City 64119, has become a member of Clay-Platte County Medical Society. Dr. Saleh is a native of Jerusalem, Jordan, received his preliminary education at the University of Missouri and his D.O. degree at Kansas City College of Osteopathic Medicine in 1978. He specializes in obstetrics and gynecology.

Richard A. Seagrave, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Seagrave is a native of Bridgeport, Conn., received his preliminary education at the University of Michigan and his M.D. degree at the University of Texas in 1977. He specializes in orthopaedic surgery.

Stuart A. Seale, M.D., 3535 S. National, Springfield 65807, has become a member of Greene County Medical Society. Dr. Seale is a native of Lincoln, Neb., received his preliminary education at Loma Linda University and his M.D. degree at Loma Linda University in 1979. He specializes in family practice.

Stephen C. Sturgeon, M.D., 1520 S. Brentwood, St. Louis 63144, has become a member of St. Louis Metropolitan Medical Society. Dr. Spurgeon is a native of Indianapolis, Ind., received his preliminary education at Purdue University and his M.D. degree at Indiana University in 1970. He specializes in emergency medicine.

G. Donald Stillie, D.O., 2928 Main, Suite 340, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Stillie is a native of Independence, received his preliminary education at the University of Missouri-Kansas City and his D.O. degree at Kansas City College of Osteopathic Medicine in 1978. He specializes in oncology.

William Van Stoecker, M.D., 1100 W. 10th, Rolla 65401, has become a member of Mid-Missouri Medical Society. Dr. Stoecker is a native of St. Louis, received his preliminary education at California Institute of Technology and his M.D. degree at the University of Missouri-Columbia in 1977. He specializes in dermatology.

Mark S. Stuppy, 404 E. Battlefield, Springfield 65807, has become a member of Greene County Medical Society. Dr. Stuppy is a native of Perryville, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in obstetrics and gynecology.

John L. Venter, D.O., 3103 McClelland, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Venter is a native of Humansville, received his preliminary education at the University of Missouri-Columbia and his D.O. degree at Kansas City College of Osteopathic Medicine in 1978. He specializes in internal medicine.

Neal E. Wearner, M.D., 1515 Union St., Moberly 65270, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Wearner is a native of Houston, Tex., received his preliminary education at Pacific Union College and his M.D. degree at Loma Linda University in 1973. He specializes in pathology.

New Student Members

St. Louis University

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Ben M. Gasirowski
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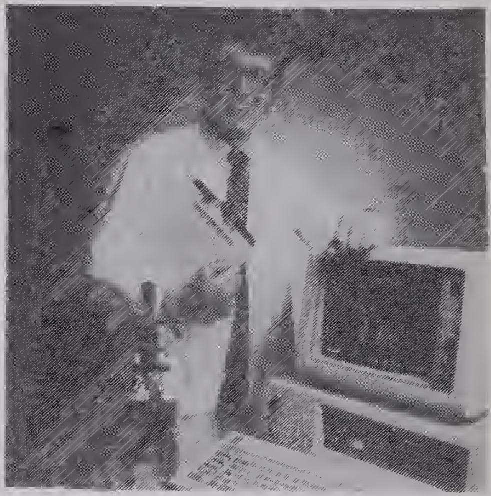

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

THE AMA IS WORKING with state and national specialty societies to promote the goals of a one-year voluntary freeze on physician fees. The Board of Trustees action calling for the freeze was announced at the AMA National Leadership Conference late in February. A letter from the Association to approximately 390,000 physicians asks physicians to freeze their fees for one year, to continue taking into account the financial circumstances of patients — especially the unemployed, the uninsured, and those on Medicare — and to accept reduced fees when warranted. Board of Trustees Chairman John J. Coury, Jr., M.D., said he estimated that 85% to 90% of the nation's physicians would participate.

Please note that the MSMA House of Delegates approved a resolution to freeze fees for one year during the Missouri State Medical Association's Annual Convention in St. Louis on March 29-April 1.

A PEER-TO-PEER membership recruitment program will be implemented by the AMA in the 1984 membership year. State and specialty delegations will be provided with lists of physicians who belong to their society but not to the AMA. Unified states will receive lists of nonmembers at all levels. From these lists, delegates and alternate delegates will select five nonmembers in their communities to recruit for AMA membership. To facilitate the selection of specialty society members who do not belong to the AMA, specialty society delegates will be asked to provide their society's membership roster to the AMA before the AMA Annual Meeting. The AMA will provide delegates and alternates with background information on prospective members as well as appropriate peer-to-peer material. A report on the program will be made at the AMA Interim Meeting in December. Awards will be presented to top recruiters and the top delegation.

OHIO AND TEXAS increased their 1984 AMA delegate counts by one each. No states lost seats in the new allocation. As a result, 353 delegates will be credentialed this year for the Annual and Interim Meetings of the House.

PHYSICIAN INQUIRIES to the AMA library increased 82% last year, rising from 8,147 at the end of 1982 to 14,850 in 1983. Total inquiries — including those from physicians, AMA and Federation staff, the public, and hospitals — rose from 48,426 in 1982 to 54,001. Last year, 1,215 of the total inquiries were for information on AMA policy positions, statements, publications, and reports.

AN AD HOC COMMITTEE on Foreign Medical Graduates was established by the AMA Board of Trustees to study the problems and special concerns of FMGs, including U.S. citizens who studied medicine abroad. The study will focus on current issues in residency training, examinations, licensure, immigration policies, and employment opportunities. The ten-member committee will serve for two years and is expected to increase the involvement of FMGs in organized medicine.

AMA AUDIO MEDICAL NEWS announced discounts for one-year and for seven-month subscriptions to audiocassette digests of socioeconomic medical news. Each issue provides a one-hour presentation of news, commentary, and interviews on such topics as the effects of increased competition, changes in reimbursement and delivery, and health planning. A 30% discount reduces the cost of a $96 yearly subscription to $67. A 20% discount reduces the cost of a seven-month trial subscription from $56 to $44. For more information, call 1-800-621-8325.

THE AMA'S Physicians' Placement Service is now offering free registration to members. PPS is a computerized information clearinghouse that provides listings of practice opportunities in nearly every medical specialty. Two bimonthly registers are published: the "Opportunity Placement Register," which contains short descriptions of available practice opportunities, and the "Physician Placement Register," which contains abbreviated curricula vitae. During 1983, PPS-registered physicians requested more than 8,900 practice listings from the OPR. Employers requested more than 18,600 curricula vitae from the PPR. For more information, call 312-645-4712.

THE AMA SUBMITTED 62 statements to Congress on pending legislation and 46 statements to administrative agencies on pending regulatory matters during 1983.

FIVE STATE MEDICAL societies have formed hospital medical staff sections, according to preliminary results of an AMA survey. They are Arizona, California, Idaho, Maine and Minnesota. Ten other states are in the process of forming sections: Colorado, Connecticut, Michigan, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Virginia and Washington. States that said they have not formed sections but have other programs in place are Illinois, Iowa, Kansas, Mississippi, North Dakota and Vermont.

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References: **1.** Kales J *et al*: *Clin Pharmacol Ther* *12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther* *18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther* *19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther* *32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* *27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol* 3:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther* *21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res* *13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol* 3:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep* *5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology* *26*:121-137, 1983.

DALMANE® Ⓒⅳ
flurazepam HCl/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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Missouri Medicine

Vol. 81, No. 6 (ISSN 0026-6620) June, 1984

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MISSOURI STATE MEDICAL ASSOCIATION
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Rx

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MOMEDICO now offers Missouri physicians their choice of professional liability insurance: either "modified claims-made" coverage or "occurrence" coverage.

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PROGRESS NOTES

missouri state medical association

JUNE 1984

Medicaid Announces Reductions

Effective with hospital admissions on or after July 1, 1984, physician inpatient hospital services will be limited to the lesser of:

- The number of days indicated as appropriate for the diagnosis at the 75th percentile average of stay in the 1981 Professional Activity Study (PAS) by Diagnosis for the United States, North Central Region; or
- The number of days billed as covered service by the provider.

For purposes of administration of this limitation, counting of the days which may be allowable under the PAS schedule of average length-of-stay shall always be from the beginning date of admission for a continuous period of hospitalization. Reimbursement shall only be made for allowable days during which the

(continued on page 2)

Exam Forms Are Available

Forms which meet the U.S. Department of Transportation's requirements for physical examinations of professional truck drivers are available from the Missouri Bus and Truck Association.

Physical examinations forms (50 per pad) are available for $2.50 per pad. Medical Examiners Certificates (wallet cards) are available for $1 per strip (5 cards per strip).

The minimum order is $10 and there is a $2 handling charge on all orders. Please remember to add sales tax and remit amount due with your order.

To order, write the Missouri Bus and Truck Association, P.O. Box 1247, Jefferson City, Missouri 65102.

Medical Legislation

Bills Opposed by the MSMA Fail to Pass '84 Legislature

Oftentimes, an association's or society's success in the legislature is measured not by how many bills they successfully lobby to pass, but rather by the number of detrimental bills which they lobby not to pass. Such was the case with the 1984 General Assembly which adjourned Monday, April 30. The session can best be summarized as "no damage done!"

Bills opposed by the Missouri State Medical Association which were not adopted include: SB 414/HB 1246, which would have mandated medical treatment for all handicapped infants; SB 621/HB 921, which called for the registration of physician assistants; and measures which would have licensed acupuncturists, respiratory therapists, radiation technologist and professional counselors. The bill also would have allowed physical therapists to practice independently of a physician's prescription.

A bill closely monitored by the MSMA, HB 1296, which contained provisions on Certificate-of-Need, uniform billing and Preferred Provider Organizations, was amended in the waning days to include a definition of "health care services" which was unacceptable to the Association. While working with several groups to gain acceptable language to the definition, the clock continued to move and HB 1296 was not reached prior to adjournment.

Perhaps the bill of most interest to all Missouri physicians which did not gain approval was a package of four dealing with medical professional liability. These would have (1) placed a cap on awards, (2) limited attorney contingent fees, (3) rescinded the collateral source rule, and (4) permitted periodic payments. Reception was cool towards these bills and added emphasis on such legislation is planned for 1985.

Other bills of interest which did not pass would have established a Radiation Protection Act, repealed the motorcycle helmet law, allow interest on late Medicaid payments and legalized the "Living Will."

Two bills which the Association had introduced at the request of the Board of Healing Arts were passed. These permit the Board to deny renewal of a license for cause and eliminated faulty language in the speech pathologists chapter.

Also passed were bills which strengthened the state's DWI laws, rewrote the Vital Statistics statutes, established a state Arthritis Act and eliminated oxygen from the state's sales tax laws.

Support Needed

Today, medical legislation is affecting every aspect of our medical practice. We simply cannot afford to sit back and allow uninformed and disinterested legislators to cast votes against the best interests of our profession and against the best interest of health care in Missouri.

This is an important election year. We must help elect legislators who are friends of medicine. The Missouri Medical Political Action Committee (MMPAC) is designed to do just that. We need your help and your dollars.

Please send in your $40 MMPAC Regular membership dues or $100 MMPAC Sustaining membership dues today. Remember, winning at the polls means winning in the Capitol.

Send your contribution today to MMPAC, P.O. 1402, Jefferson City, MO 65102.

Medicaid Reductions

(continued from page 1)

recipient is eligible, and services billed for days in excess of those allowable under the PAS schedule shall be denied as non-covered.

This limitation applies to inpatient physican services during which there are no Medicare Part B Benefits available.

It is extremely important that the provider correctly identify and describe the primary diagnosis and indicate it as #1 in field 23A of the HCFA-1500 claim form. If there is a secondary diagnosis, be certain to indicate it as #2, also in field 23A. Also, for each line item of the claim, enter the diagnosis code from field 23A that corresponds to the diagnosis applicable to the procedure. Enter "1" when referring to the primary diagnosis, enter "2" when referring to the secondary diagnosis; or enter the actual diagnosis code.

The primary diagnosis used for physician inpatient services should be the discharge diagnosis, and it should be in agreement with that used by the hospital for billing purposes. In determining the appropriate average length of stay, the system calculates the number of days from the primary diagnosis, and from the additional elements of the recipient age, single or multiple diagnoses, and operated or nonoperated status. You can determine this information from referencing the 1981 Professional Activity Study and Diagnosis for the United States, North Central Region.

Tip of the Month

This month's tip comes from Mrs. Diana Browning, office manager of the Gaston Digestive Disease Clinic in Gastonia, North Carolina.

"Whenever a pharmacy calls us for information on refills and new prescriptions, we take down the information on a special form. The form is then attached to the patient's chart for the doctor to review. After the doctor approves or denies the Rx request, the entire chart is returned to the staff. We call the pharmacy with the approval and/or further instructions and the form is then given to the typist for permanent entry into the patient's chart. This reduces the time our doctors spend on the phone and also the time our charts are kept out of file."

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Legislation in Effect

Proposed Rule to Mandate Reporting of Cancer Cases

The Division of Health has filed with the Secretary of State, for inclusion in the June *Missouri Register*, a proposed rule on reporting of cancer cases. The rule will implement Senate Bill 163 which was passed during the 1983 legislative session. The legislation requires mandatory reporting of cancer cases.

The law requires the chief administrative officer of every hospital to report every hospitalized case of malignant neoplasm (except nonmelanomatous skin cancers) to the Division of Health. Further, it requires the attending physician to provide to the chief administrative officer, in writing, the information required for reporting.

The proposed information required in the rule includes information reported by hospitals participating in the Voluntary Missouri Cancer Registry and the American College of Surgeons registry. In addition, items relating to unusual toxic exposure, occupation and residence have been included.

The Division of Health will provide training for individuals designated by the hospital's chief administrative officer to facilitate submission of the required information. The rule also allows those hospitals currently submitting cancer data on computer tape to the Division of Health to continue to submit data in the same format.

For a copy of the proposed rule, contact the MSMA office in Jefferson City. There is a 30-day comment period on the rule after publication in this month's *Missouri Register*. Comments may be sent to the Section of Epidemiology Services, Missouri Division of Health, P.O. Box 570, Jefferson City, MO 65102.

Survey

Elderly More Satisfied than Young with Medical Care

As the 1984 elections approach, debate over proposals for the funding of Medicare grows more intense. These discussions are often based on general perceptions of the position occupied by the elderly in American society and the way that position affects the medical care they receive.

When polled in August 1983, a majority of young Americans aged 18-34 indicated that the elderly are unable to get needed medical care. This widespread opinion is related to the view held by 80 percent of these same respondents that not enough of society's resources are being directed to financial support for the elderly. In fact, of all sectors listed, financial support for the elderly is seen as most in need of additional funding.

For several years, the AMA has examined the public's satisfaction with various aspects of their last visit to a physician. These include evaluations that relate to quality: treatment by staff, physicians' explanations, medical care received, and an overall rating. These studies conclude that the elderly in America evaluate the quality of care they receive much more highly than do younger Americans.

The AMA's studies also examine views toward time to get an appointment, time spent waiting in the office, and access to medical care. Again, the elderly rate their access to medical care much more highly than respondents aged 18-34. Waiting times in the office and for an appointment are also evaluated more positively.

Several questions addressing cost issues were included in the 1983 survey. Several points emerge from these data. First, the elderly are much less likely than younger Americans to favor more spending on either health care or financial support for themselves. Second, in terms of actual experience, the elderly show higher levels of satisfaction with fees charged and are more likely to view their own doctor's fees as reasonable.

However, the elderly do exhibit heightened sensitivity to cost in general as the main problem facing health care. A possible explanation for this seeming inconsistency is that while current charges and expenditure levels are viewed relatively positively, because of fixed incomes, the elderly show increased sensitivity to the possibility of cost becoming a more pressing problem in the future.

Consumer Price Index

Cost of Medical Care Rises Faster than 'All Items' Index

In 1983, the medical care component of the Consumer Price Index (CPI) increased 6.4 percent, clearly above the all items rate of 3.8 percent. Within the medical care sector, professional services rose 7.6 percent. Physicians' services increased at a slightly lower rate (7.5 percent), while dental services rose at a slightly higher rate (8.2 percent).

Even though the rate of increase for the all items CPI was essentially the same for 1982 and 1983, the rate of increase for the medical care component experienced a substantial moderation over this period. From 1982 to 1983, the rate of increase in this component decreased by 42 percent, a decrease greater than that for any other major component.

This decrease was not due to changes in the rates for professional services or its subcomponents, which experienced either the same or larger rates of increase during 1983 as compared to 1982. Over the coming years some attention probably will be focused on this category of the medical care component, partly as a result of the American Medical Association's call for physicians to freeze their fees voluntarily during the coming year.

Some of the moderation in the rising cost of medical care resulted from a lessening of increases in hospital room charges. These charges increased 9.3 percent in 1983, down from 13.3 percent in 1982. However, the increases for this component and for "other hospital and medical care services" both remained at relatively high levels.

By process of elimination, it would appear that a substantial moderation in the health insurance subcomponent of the CPI was responsible in large part for the decline in the rate of increase for the medical care component. Date for this important subcomponent are not published on a regular basis by the Bureau of Labor Statistics (BLS), and an official figure has not been released for 1983.

However, an indirect calculation has been made by BLS, utilizing the weights of the medical care subcomponents and the known rates of increase for the other subcomponents. This calculation indicates that the health insurance subcomponent increased by approximately 3.8 percent in 1983, down substantially from the 15.9 percent rate for 1982. (This component is intended to reflect only those costs of health insurance that are borne directly by the consumer. It does not, for example, include health insurance contributions made directly by employers.)

PERCENTAGE CHANGES IN SUBCOMPONENTS OF THE MEDICAL CARE COMPONENT OF THE CPI

Component	1983	1982	Annualized Change Last 5 Years (1979-83)
All Items	3.8%	3.9%	8.4%
Medical Care	6.4	11.0	10.0
Medical Care Commodities	7.6	9.6	9.2
Prescription Drugs	9.6	12.0	10.3
Medical Care Services	6.1	11.2	10.1
Professional Services	7.6	6.7	9.0
Physicians' Services	7.5	7.5	9.4
Dental Services	8.2	5.9	8.9
Hospital Room	9.3	13.3	12.9
Other Hospital and Medical Care Services	11.2	12.0	12.5
Health Insurance	N.A.	15.9	N.A.

Dey Joins MSMA Staff

Gary R. Dey has been named the new Director of Governmental Relations for the Missouri State Medical Association. Dey replaces Doug Viehland who recently resigned to become the first executive director for the Boone County Medical Society.

Prior to joining the MSMA staff, Dey was employed by General American Consultec as a consultant for the Medicaid fiscal agent.

A Sedalia native, Dey earned his bachelor of science degree in criminal justice administration from Central Missouri State University. He is currently working toward his masters degree in public administration from the University of Missouri.

While living in Sedalia, Dey served as the Community Development Director and Interim Chief of Police. He is married to Amanda "Mandy" Dey.

Med Students Receive Awards

One student from each of Missouri's four medical schools has been awarded the Missouri State Medical Association's 1984 Honors Graduate Award. The award, with a $100 accompanying check, goes to students who have shown superior performance both in clinical rotations and on standardized examinations.

This year's recipients are: Timothy W. Martin, University of Missouri-Kansas City; Terry Jay Sites, University of Missouri-Columbia; Joseph Francis, Jr., Washington University; and Mark Molloy, St. Louis University.

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This drug is not indicated for initial therapy of edema or hypertension Edema or hypertension requires therapy titrated to the individual If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur. and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients Use cautiously in surgical patients Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide' The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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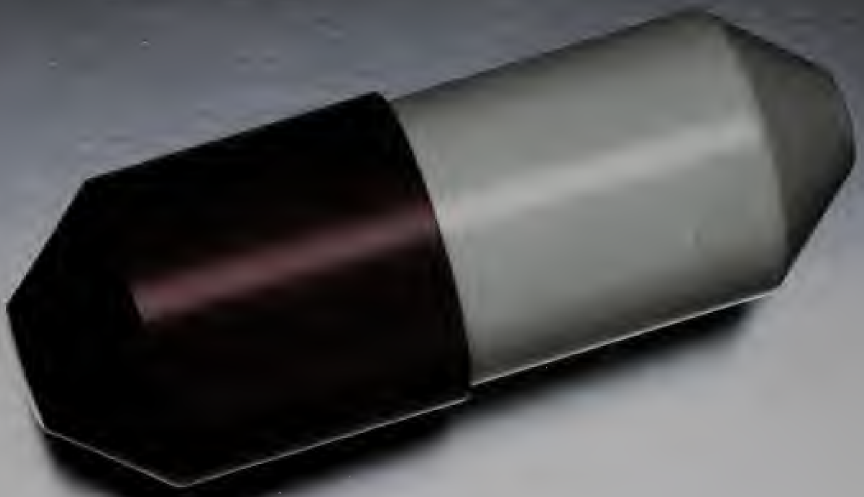

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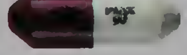

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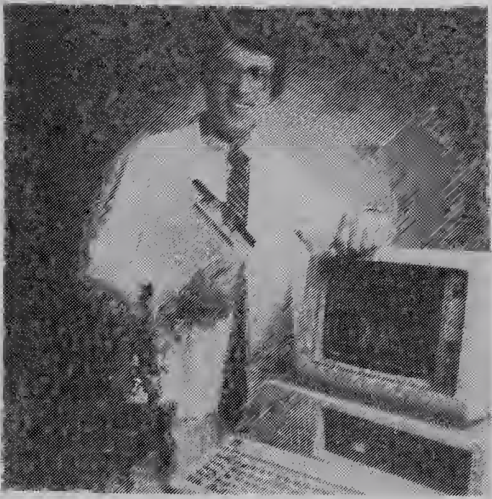

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Missouri Medicine

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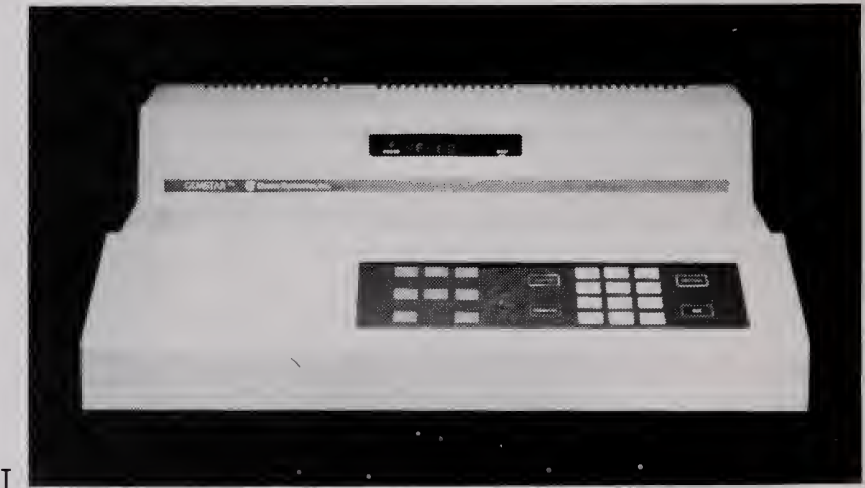

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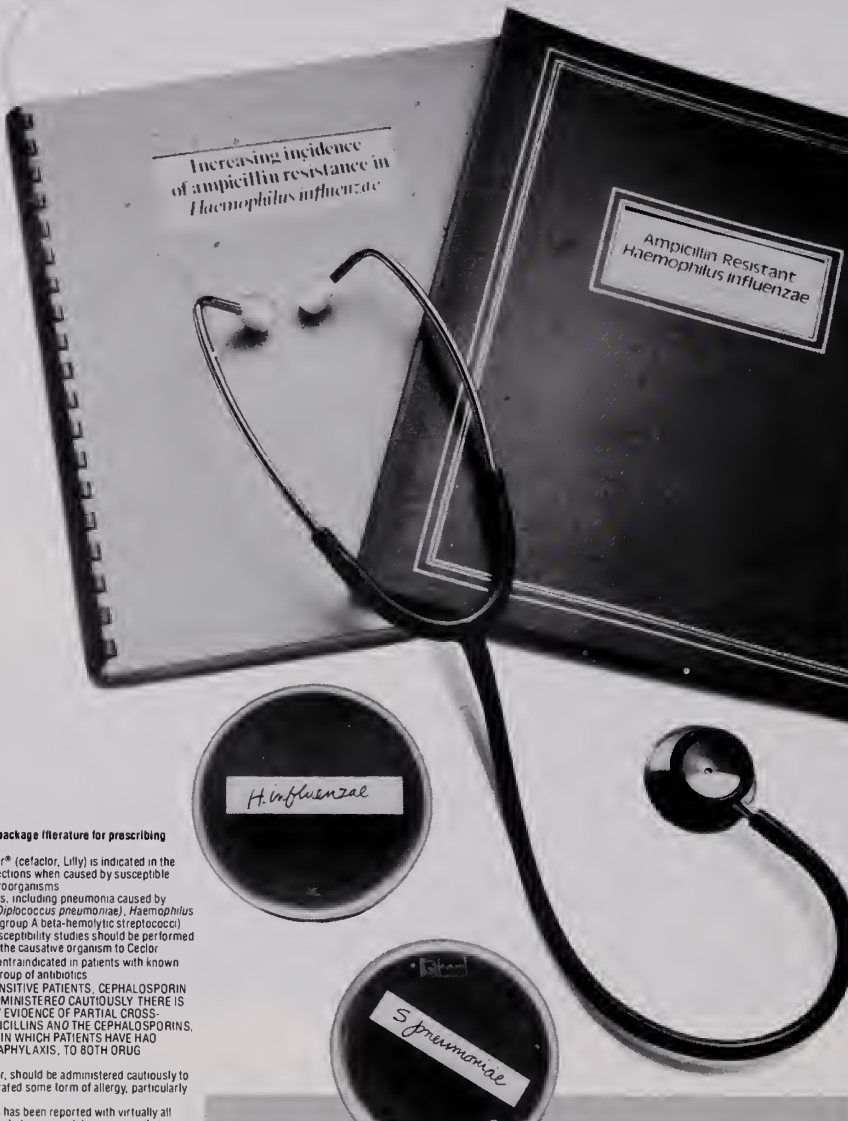
Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
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S. pneumoniae

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

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Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour. The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either S *pneumoniae* or H *influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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Editor's Corner

EDITORIAL

When we were children, in the dark, we were sometimes afraid to look back over our shoulders — something might be there.

Most doctors now are equally afraid to look behind themselves to see what all is creeping up on them — huge, sleezy monsters called HMO, PPO, IPA, DRG and other such acronyms. Perhaps one reason that it is hard to get these apparitions into focus is that they are coming on so fast. Recent statistics show that membership in Missouri HMOs is approaching 150,000 members, largely in Kansas City and St. Louis, so medical practice via HMO organizations is obviously part of the health scene in this state.

The latest spectre, the Preferred Provider Organization (PPO), is blooming fast and is the subject of most of the media coverage at this point. With over 200 PPOs nationwide, it is a concept in medical care that will soon involve a good percentage of physicians in our state. For many years, we have all been wondering when "socialized medicine" would overtake our comfortable and first class fee-for-service medical system. Eastern liberals have long been predicted to cause our eventual downfall.

As the change is coming, however, it has accelerated under a conservative President, and with big business as one of the strongest supporters of change. Doctors may be thrashing around in rear guard defensive action, but economic, social and political pressures being what they are, new health delivery systems are here, and in some form or another, here to stay.

Whatever our basic negative feelings as doctors are about joining such health delivery groups, statistics in area after area where PPOs are organized show that most physicians sign up and sign up fast. There are too many doctors in practice now, and competition is too keen for them not to take part in these organizations to insure having patients and income. All the potential new ideas haven't even been formulated yet. DRG systems for doctors are envisioned as the next step, compared to which the HMOs and PPOs may soon seem like the good old days.

It is difficult to decide now how to act, or react, in this time of such medioeconomic pressure and change. We and our patients must never forget that all of these organizations exist for one purpose only — to try to lower the cost of medical care by controlling physicians' incomes. Most of us doubt that this can be done to any degree without cutting quality of care, and we face a big undertaking in educating our patients on this point. The patient is the one who will be most affected by all this regulation of medical services; we must be his advocate, since his employer or union or insurance company apparently won't be.

It just may be that the politicians and planners may look over their shoulders one of these days and see something big and powerful — a coalition of doctors and their patients that will finally give them pause.

JORDAN W. BURKEY, M.D.
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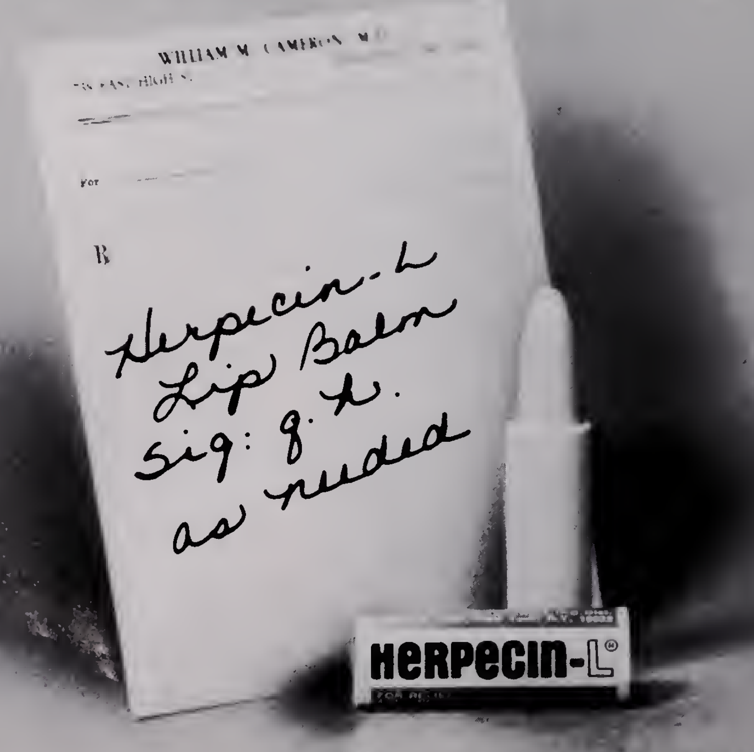

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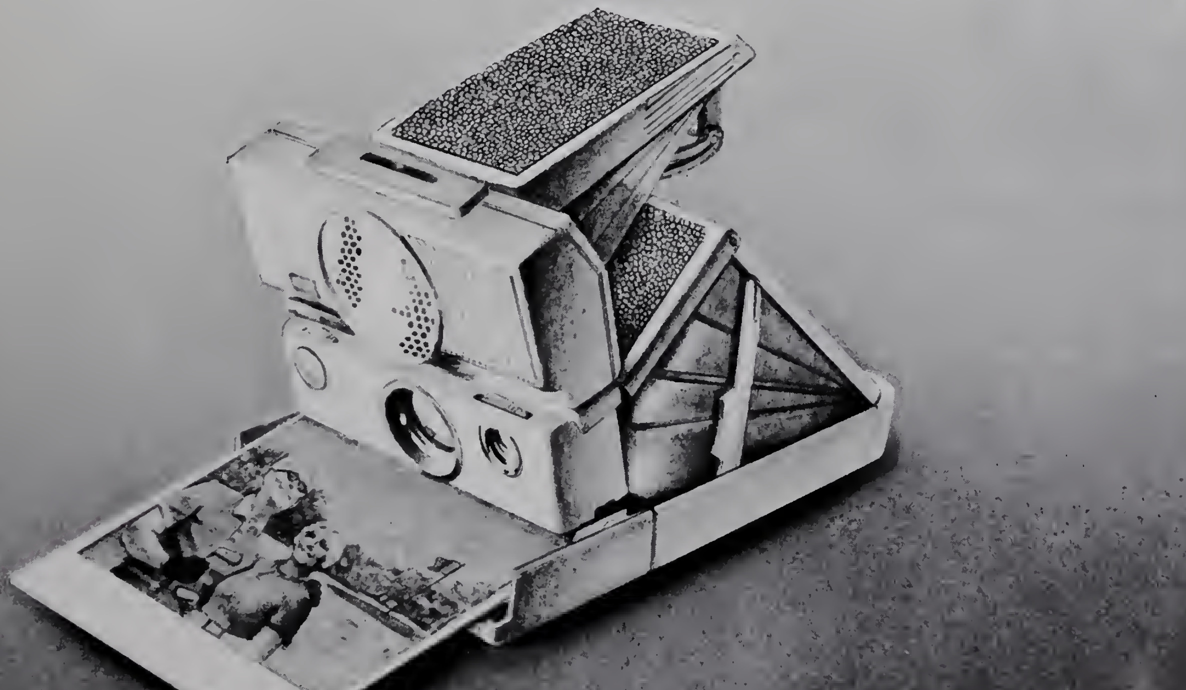

New University of Missouri-Columbia Health Sciences Library Will Be A Resource For All Missouri Physicians

Now being constructed, the new UMC Health Sciences Library *(right)* will be attached to the schools of Medicine and Nursing. It will provide 39,000 square feet of space for the library in contrast to the current 12,800 square feet and accommodate 400 people instead of the 100 who can use the current library.

The new Health Sciences Library at the University of Missouri-Columbia (UMC) is now under construction and is expected to be completed in May, 1985.

The facility, which will provide three times as much space as the present library, will serve as a comprehensive resource for the entire medical community in Missouri.

Since Dr. J. Otto Lottes of St. Louis donated $1 million worth of Ozark timberland in 1979, a total of more than $2 million from 700 private donors has been raised by the library. Most donors are graduates of the UMC schools of Medicine and Nursing and Missouri Corporations. The state has approved $3.1 million from the bond issue for the facility that includes an office building.

A part of the Midcontinental Regional Medical Library Program, the UMC Health Sciences Library responds to requests for specific books and articles or materials on certain topics from individuals as well as community and hospital libraries. A fee is charged for borrowed material. Recently, an average of 1,000 requests a month have been received.

The stacks will provide for up to ten years' growth.

The library has grown steadily since moving into its present quarters in 1956. During the first academic year, two staff members took care of a 30,688 volume collection and less than 700 periodicals were received. Annual circulation was 9,671 and attendance was almost 56,000.

Now, 14 full-time staff members are responsible for a 143,000 volume collection and 1,857 periodicals are received. Annual circulation is 54,749 and attendance has tripled to 174,306 in this academic year.

Services offered by the library staff include the following:

- Literature searches using computerized databases (an average of 200 searches a year are made for persons outside of UMC).
- Answering reference questions (a service especially useful for persons in communities without libraries or whose libraries lack the necessary tools or reference materials).
- Classroom-required media, such as films, tapes and slides, along with viewing rooms and computers for accessing databases after the new library is established.

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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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HEIDI S. THOMAS, M.D. *and* JOHN H. BAUER, M.D. *Columbia*

Hereditary Nephritis, Deafness and Thrombocytopenia

Case Report and Review

THE ASSOCIATION OF HEREDITARY NEPHRITIS with deafness was first noted by Alport in 1927,[1] and has been described in more than 250 kindreds since that time.[2] The renal lesion of Alport's syndrome is characterized by areas of thickening of the glomerular basement membrane with longitudinal splitting of the lamina densa alternating with thinned areas as visualized under electron microscopy.[3-7] The associated deafness has been characterized as a high frequency sensorineural loss. In addition, several other associated conditions that have been described are most commonly a variety of ocular defects.[2] Macrothrombocytopenia has rarely been described. This is a report of the tenth described kindred manifesting the association of nephritis, deafness and macrothrombocytopenia.

CASE REPORT

A 34-year-old white man was referred to the Harry S. Truman Memorial Veterans Hospital in Columbia for further evaluation of thrombocytopenia and renal insufficiency. He became aware of a low platelet count at the time of hospitalization for a spontaneous pneumothorax in 1977 at age 27. In 1978, he was hospitalized for evaluation of a platelet count of 40,000/mm.[3] He was found to have giant platelets with irregularly distributed granules. A bone marrow specimen demonstrated abnormal megakaryocytes with frequent mononuclear or hypolobulated nuclei, usually with mature granules in the cytoplasm but with occasional cytoplasmic vacuoles. The diagnosis of Bernard-Soulier syndrome was considered, but no platelet function studies were performed. Trace proteinuria was noted; renal function was otherwise normal. One year later (1979), he was noted to have 3 gm of proteinuria/24 hours as well as microhematuria. Serum urea nitrogen value was 24 mg/dl and serum creatinine level was 1.3 mg/dl. Platelet count was 35,000/mm^3. Serum C_3 and C_4 complement levels and plasma cryoglobulins were unremarkable. A renal biopsy was deferred because of thrombocytopenia.

The patient was lost to follow-up until 1982, when he was noted to be hypertensive by his local physician. In March of 1983 he was placed in a local hospital for evaluation of nonspecific dizzy spells. At that time his

The syndrome of hereditary nephritis and deafness has rarely been associated with macrothrombocytopenia. The authors report the tenth kindred manifesting such an association and review the reported platelet function abnormalities. Other syndromes of thrombocytopenia with platelet dysfunction have been correlated with platelet membrane abnormalities. The authors also postulate a selective membrane abnormality accounting for the various aspects of Alport's syndrome, including macrothrombocytopathy.

Drs. Thomas and Bauer are from the Medical Service, the Harry S. Truman Memorial Veterans Hospital and the Department of Medicine, University of Missouri-Columbia School of Medicine.

serum urea nitrogen value was 75 mg/dl and serum creatinine level was 7.0 mg/dl. Platelet count was 24,000/mm^3. A bone marrow specimen was interpreted as being normal with occasional large platelets noted on peripheral smear. He was believed to have immune thrombocytopenia, was started on a short course of steroids, and was transferred to the H.S. Truman Memorial Veterans Hospital. He denied analgesic abuse, nephrolithiasis or streptococcal infections but noted hearing loss that has required him to wear a hearing aid for the past five years. Two of his three children had thrombocytopenia with platelet counts of 32,000/mm^3 and 53,000/mm^3. One child was subsequently found to have a high frequency hearing loss.

Physical examination showed no abnormalities except hearing loss. Serum chemistry abnormalities included: serum urea nitrogen 92 mg/dl; serum creatinine 7.6 mg/dl; potassium 5.5 mEq/L; chloride 110 mEq/L; total CO_2 content 16 mEq/L; and phosphate 5.6 mg/dl. Hemoglobin level was 10.4 gm/dl; hematocrit value was 32% and platelet count was 49,000/mm^3 with large platelets. Serum C_3 and C_4 complement levels were normal and a flourescent antinuclear antibody was negative. A combined 24-hour, urea-creatinine clearance was 9.3 ml/min. Renal ultrasound revealed bilateral small kidneys with a suggestion of abnormal parenchyma. An audiogram showed an 80 decibel loss at 8,000 Hz in the right ear and a 70 decibel loss at 8,000 Hz in the left ear. Further hemostatic evaluation included normal glass bead adhesion, normal platelet factor 3 release, and a prolonged bleeding time. Because of marked thrombocytopenia, aggregometry was not performed. The patient was believed to have end-stage renal disease. A Tenchoff catheter was placed for the purpose of beginning peritoneal dialysis.

DISCUSSION

The association of macrothrombocytopenia, nephritis and deafness was first described in 1972 by Epstein[8] in several members of two unrelated families. The specific features of the platelet disorder in that report were thrombocytopenia; giant platelets with an abnormal ultrastructure; a prolonged bleeding time; defective adherence of platelets to glass; impaired aggregation in response to collagen, ADP and epinephrine; and impaired release of platelet factor 3.[8] Since that report, the association has been noted by Eckstein *et al*,[9] Parsa *et al*,[10] Bernheim *et al*,[11] Hansen *et al*,[12] Clare *et al*[13] and Gubler *et al*.[2] Table 1 summarizes laboratory data compiled from the above literature. The cases of all kindreds were documented with renal biopsy, audiometry and/or family history.

Of the 17 reported cases in ten kindreds, all had platelet counts of less than 100,000/mm^3. Nine of these 17 had platelet measurements performed, and six met the criteria for large platelets of great-

TABLE 1
SUMMARY OF DATA FROM REPORTED CASES OF HEREDITARY NEPHRITIS, DEAFNESS, AND MACROTHROMBOCYTOPATHY

Reference	Kindred	*Patient Age/Sex*	*Platelet Count (mm^3)*	*Platelet Size (um)*	*Platelet Ultrastructure*	*Bleeding Time (min)*
Epstein *et al*	1	20/M	50,000	large	—	⇧
		15/F	100,000	4.74	abnormal	>20
		3½/F	40,000	4.23	abnormal	>15
Epstein *et al*	2	18½/F	25,000	3.95	abnormal	>15
		27/M	⇩	—	—	—
Eckstein *et al*	3	30/F	30,000	4.00	normal	12
		63/F	40,000	—	normal	—
		43/M	35,000	3.80	normal	—
		9/F	42,000	3.60	normal	7.5
Parsa *et al*	4	51/M	40,000	large	—	16
		24/M	20,000	large	abnormal	normal
Bernheim *et al*	5	22/M	30,000	4.40	abnormal	normal
Hansen *et al*	6	22/M	100,000	11.00	abnormal	—
Clare *et al*	7	20/M	30,000	6.00	abnormal	—
Gubler *et al*	8	child/M	⬇	large	—	⇧
Kuroda *et al**	9		information not available			
Thomas *et al*	10	34/M	24,000	large	—	730

* As quoted by Gubler, *et al.*

→

er than 4 μ diameter. Additionally, five were described as having "large" platelets. Thus, 78% of those patients in whom platelet size was noted had large platelets. Eleven cases included reports on platelet ultrastructure, seven of which (63%) were abnormal with similar microscopic findings. Finally, 12 cases included platelet functions, seven of which (58%) were abnormal.

Congenital thrombocytopenia with platelet dysfunction has been described in several forms. The syndrome described by Bernard and Soulier in 1948[14] is characterized by specific abnormalities in platelet function and by abnormal platelet ultrastructure.[15, 18] Specifically, platelets fail to aggregate in response to bovine factor VIII or human factor VIII and ristocetin, but they respond normally to other aggregating agents such as ADP.[16-18] Reduced platelet subendothelial adherence is noted as well.[16-18] More recently, this functional defect has been correlated with a specific platelet membrane abnormality deficiency of glycoproteins Ib and Is.[16, 19-23] A causal relationship between structure and function has been suggested by studies of normal human platelets using alloantibodies directed against glycoproteins Ib and Is. Binding of these antigens induced platelet dysfunction of the type observed in Bernard-Soulier syndrome.[16] Similarly, the congenital syndrome of Glanzmann's thrombasthenia is characterized by normal platelet number, absence of ADP-induced platelet aggregation, and decreased clot retraction.[23] This membrane abnormality has been well documented, also; there is marked deficiency in glycoproteins II and III.[16, 23]

Although there is some variability in the platelet function abnormalities reported in the cases reviewed in this paper, they do not appear to meet the criteria for any of the documented platelet dysfunction syndromes described. The implication, thus, is that they represent another specific platelet membrane abnormality that remains to be defined. The rare, but persistent, association of this abnormality with hereditary nephritis and deafness may implicate a common membrane defect.

Speculation on the pathogenesis of Alport's syndrome recently has centered around an abnormality of a glycoprotein component of the basement membrane. It has been noted that the glomerular basement membrane of patients with Alport's syndrome fails to bind antiglomerular basement membrane antibodies.[24, 25] This finding has been noted in normal infants[26] as well and it has been postulated that the renal lesion in

(Continued on page 311)

TABLE 1 (continued)
SUMMARY OF DATA FROM REPORTED CASES OF HEREDITARY NEPHRITIS, DEAFNESS, AND MACROTHROMBOCYTOPATHY

		Clot	*Bead*						*Aggregation*	
Reference	*Kindred*	*Retraction*	*Adhesion*	*PF$_3$*	*Fibrinogen*	*ADP*	*Collagen*	*EPI*	*Ristocetin*	*Thrombin*
Epstein *et al*	1	⇩	—	—	—	—	—	—	—	—
		normal	⇩	⇩	—	⇩	⇩	⇩	—	—
		normal	⇩	⇩	—	normal	⇩	—	—	—
Epstein *et al*	2	normal	⇩	⇩	—	⇩	⇩	⇩	—	—
		—	—	—	—	—	—	—	—	—
Eckstein *et al*	3	normal	—	⇧	abnormal	normal	normal	normal	—	—
		normal	—	⇧	—	normal	normal	normal	—	—
		normal	—	normal	—	normal	normal	normal	—	—
		normal	—	⇧	abnormal	normal	normal	normal	—	—
Parsa *et al*	4	⇩	—	—	—	—	—	—	—	—
		⇩	normal	—	—	—	—	normal	—	—
Bernheim *et al*	5	normal	—	⇩	—	⇩	⇩	—	—	⇩
Hansen *et al*	6	—	—	—	—	⇩	⇩	—	⇩	⇩
Clare *et al*	7	normal	—	normal	—	⇩	⇩	⇩	⇩	—
Gubler *et al*	8	—	—	—	—	⇩	⇩	—	⇩	—
Kuroda *et al**	9			information not available						
Thomas *et al*	10	—	normal	normal	—	—	—	—	—	—

* As quoted by Gubler *et al.*

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Radionuclide Evaluation of Acute Gastrointestinal Bleeding

Case Reports

Approximately 225,000 cases of acute gastrointestinal (GI) bleeding are seen in the United States annually. Despite recent improvements in interventional therapy, overall mortality remains near 10%.[1] Within the last several years, nuclear medicine has made a concerted effort to develop a practical means for detecting acute GI bleeding. Radiopharmaceuticals that localize either in body organs or remain in the vascular space have been used with success to demonstrate bleeding sites. The ease of performance, safety and economy of these nuclear medicine techniques have made them become routine in many institutions. The objective of this paper is to familiarize the practitioner with these techniques and to optimize their clinical utilization.

Current medical textbooks have generally failed to acknowledge the recent contributions of nuclear medicine in evaluating acute gastrointestinal bleeding. Two radiopharmaceuticals, technetium-99m sulfur colloid and technetium-99m-labeled red blood cells, can detect the site of bleeding with sensitivity greater than that of contrast angiography. The rationale and application of these examinations are discussed, with relevant patient data to illustrate their utility in patient management. The safety and efficacy of these tests are emphasized in this article with special reference to their use as an initial screening test to complement the contrast angiogram and other diagnostic procedures.

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Case Reports

Case #1 A 70-year-old man experienced an episode of acute rectal bleeding. Past medical history revealed several hospital admissions for GI bleeding, including a right hemicolectomy for idiopathic ischemic ulcerations and a distal small bowel resection for arteriovenous malformation. On this admission, except for a resting tachycardia, all vital signs were normal. Hemoglobin level was 7.3 gm/dl. A technetium-99m sulfur colloid study showed focal extravasation of the radioactivity in the left upper abdomen (Fig. 1). A superior mesenteric contrast arteriogram showed extravasation of contrast in the proximal small bowel. At laparotomy, fresh blood was found in the proximal jejunum, but no active bleeding site could be demonstrated. Postoperatively, the patient had an uneventful recovery without further bleeding.

Case #2 A 69-year-old woman experienced an episode of acute rectal bleeding. There was no previous history of GI problems. Vital signs were stable and results of a physical examination of the abdomen were normal. Hemoglobin level was 11 gm/dl. No mucosal lesions were seen during proctoscopy. Upper GI endoscopy was normal and colonoscopy revealed nonbleeding diverticuli in the right and left colon.

After admission to the hospital, several episodes of hematochezia occurred and necessitated a blood transfusion. Although contrast arteriography was considered, a radionuclide evaluation was performed initially. Technetium-99m sulfur colloid was injected, but no evidence of GI bleeding was seen. A technetium-99m red blood cell study demonstrated intestinal bleeding believed to be in the right colon (Fig. 2). A right colon arteriovenous malformation was found during the operation.

History

For many years, barium contrast radiography was the only noninvasive means for locating bleeding gastrointestinal lesions. Examination by ingesting barium meal may only identify approximately approximately 20% of the sources of acute upper GI bleeding.[2] Fiberoptics has greatly influ-

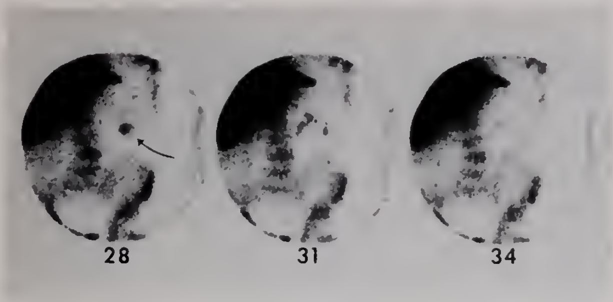

Fig. 1 Active intestinal bleeding is identified on this Tc-99m-sulfur colloid examination of the abdomen. Note changing configuration of bleeding site *(arrow)* in the left abdomen, indicating its intraluminal location. Numbers refer to minutes following injection of the radiopharmaceutical.

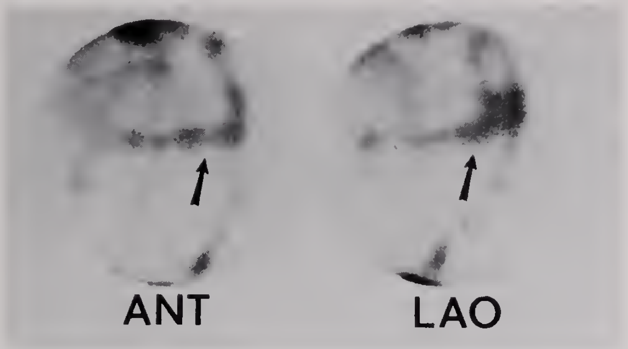

Fig. 2 Intra-colonic blood *(arrows)* is seen well on anterior (ANT) and left anterior oblique (LAO) views of abdomen using Tc-99m-labeled RBCs. A large segment of the colon contains radioactive cells due to transit beyond the bleeding site that was found in the right colon.

enced the management of these patients since nearly 90% of acute upper GI bleeding sources can be identified by early endoscopy alone.[3] Acute colonic bleeding presents difficulties for the colonoscopist since visualization of a nonbleeding lesion does not guarantee that it is the cause of the bleeding and acute massive bleeding will not permit this procedure.[4]

Despite the advances of fiberoptics, a large portion of the GI tract (jejunum and ileum) lies beyond the reach of the endoscope. The contrast angiogram has emerged as the definitive diagnostic test to demonstrate the location of GI bleeding. The preparation, performance and cost of contrast angiography, however, exclude it as a screening test for GI bleeding. Extravasation of contrast at a bleeding site is not seen at bleeding rates below 0.5 cc per minute.[5] Consequently, angiography will not demonstrate slow or intermittent bleeding.

Nuclear medicine techniques were first used to detect GI bleeding in the early 1950s. Autologous red blood cells were labeled with radioactive chromium-51 and injected intravenously. Stool was then collected and the blood loss measured by counting the radioactivity in the stool collection.[6] Although the results were reasonably accurate for documenting bleeding, the technique provided no information on the site(s). Portable radition detectors were then employed to try to locate extravasated radioactive red blood cells in the bowel at the time of operation.

Current Methods

Imaging the site of acute GI bleeding with radiopharmaceuticals is based on a simple concept: a nondiffusible radiotracer injected into the circulation will leave the vascular compartment at a point of hemorrhage and cannot reenter the circulation. Radioactive markers can be attached to many specific carriers. These radiotracer complexes are injected intravenously. They circulate and then localize in specific cells or systems. The radiopharmaceuticals used for GI bleeding studies are not specific for the hemorrhagic lesion but simply identify a vascular "leak" during the circulation phase.

Despite successful localization of GI bleeding by a variety of radiopharmaceuticals, only technetium-99m sulfur colloid (Tc-SC) and technetium-99m-labeled red blood cells (Tc-RBCs) have gained wide acceptance. Both agents are prepared from commercial kits using sterile technetium-99m (Tc-99m) from a commercial generator. These materials are commonly found in most nuclear medicine departments. Imaging with these agents can be performed at the bedside by using a mobile gamma camera, if necessary.

Technetium-99m Sulfur Colloid

In 1977, Alavi *et al* reported that intravenously administered Tc-SC could demonstrate intestinal bleeding in experimental dogs at bleeding rates as low as 0.1 cc per minute.[8]Normally, circulating sulfur colloid particles are extracted by the reticuloendothelial system with remarkable efficiency, clearing from the blood with a half-time (T½) of 2½ to 3½ minutes.[9] After several minutes, nearly all the colloidal particles are deposited in the liver, spleen and bone marrow. Active hemorrhage at the time of injection will cause irreversible extravasation of the colloidal particles into the gut. Sequentially, imaging the abdomen at three-to-five-minute intervals for approximately 30 minutes will demonstrate the bleeding site(s). Upper GI bleeding is occasionally obscured because of normal concentration of the radiopharmaceutical in the liver and spleen. This procedure may be repeated as often as necessary in patients with recurrent bleeding.

Technetium-99m Red Blood Cells

Winzelberg *et al* were the first to clinically use Tc-RBC for localization of acute GI bleeding.[10] This method provides a continuous intravascular marker and permits imaging up to 24 hours after injection. Both active and intermittent GI bleeding can be detected by this method since the tracer remains in the blood pool for extended periods. Imaging may be performed as often as necessary in patients with intermittent bleeding without the need for any additional injections. The initial point of entry of the tracer into the gut occasionally can be missed because of rapid transit.

CLINICAL APPLICATION

An episode of acute GI bleeding is usually obvious. Patients passing melanous or frankly bloody stools are quick to seek medical assistance. Unfortunately, the passage of such stool does not necessarily coincide with active bleeding nor does it point to an exact source. Experimental evidence has shown that several hours may pass before blood entering the intestinal lumen is eliminated.[11] These experiments also have shown that blood passed quickly will emerge bright red, while blood passed over several hours of intestinal transit will be melanous.

Generally, patients with acute GI bleeding are evaluated initially with endoscopy to directly visualize the accessible regions of the gut. If bleeding is localized, definitive treatment can be initiated. If a bleeding site is not demonstrated, then further investigation is required. The approach depends on the probability of active bleeding. If active bleeding is clinically suspected and contrast angiography is considered, a Tc-SC study should be performed first to document the bleeding and localize it for the angiographer. This will enhance both the sensitivity and specificity of the angiographic procedure. If the patient is not bleeding by this technique, the contrast angiogram is unlikely to be of use. When signs of active bleeding recur, the Tc-SC study may be repeated. Alternatively, a Tc-RBC study could be started if the Tc-SC study does not demonstrate the bleeding site.

Many patients will pass a melanous stool and display no signs of active bleeding when examined. The Tc-RBC study is well suited to evaluate these patients. Rebleeding occurring after administration of the labeled RBCs can be detected by serial imaging over a 24-hour period. The intermittent nature of GI bleeding can be confirmed by the Tc-RBC study with a bleeding site often appearing one or more hours after injection. The sensitivity of Tc-RBC studies in detecting GI bleeding is in excess of 90% and more than 80% of positive studies correctly identify the source of bleeding.[12-14]

Over the past few years, there has been debate over the relative superiority of these two techniques for detecting GI bleeding. Recent reports comparing Tc-SC and Tc-RBC imaging in the same patients with active bleeding show that the detection of active bleeding is as good with Tc-RBCs as with Tc-SC, and that Tc-RBCs are superior for detection of intermittent bleeding.[15, 16]

SUMMARY

Although clinical practice may change as additional data appear in the literature, the following conclusions can be made regarding the radionuclide methods for evaluating acute GI bleeding:

1. Radionuclide methods are safe, inexpensive, reliable and readily available in most hospitals. Examination can be performed at the bedside, if necessary.
2. The technetium-99m sulfur colloid examination is a sensitive method for the detection and localization of active GI bleeding and should be performed prior to contrast angiography. The study takes only 30 minutes. If the patient is not actively bleeding, a Tc-99m RBC study can be started.
3. The technetium-99m RBC examination is very sensitive in detecting intermittent GI bleeding and reasonably accurate in identifying its origin. The patient may be intermittently examined for up to 24 hours after injection of the radiopharmaceutical.

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Hereditary Nephritis, Deafness and Thrombocytopenia

(Continued from page 307)

Alport's syndrome represents abnormal persistence of a fetal antigen. A membrane defect also has been suggested in regard to the auditory abnormalities, but no consistent lesion has been noted.[27] It is interesting to speculate that the spontaneous pneumothoraces noted in our patient, though not previously described, may be related to a membrane abnormality as well.

Thus, the triad of hereditary nephritis, deafness and macrothrombocytopenia is a rare, but well-documented association with some evidence that each arm of the triad is the result of a specific membrane abnormality. We suggest the possibility that this abnormality represents a maturation defect resulting in fetal antigenic persistence.

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Improved Prognosis of Malignant External Otitis

Case Report

THE TERM malignant external otitis, refers to an invasive infection of the external auditory canal caused by *Pseudomonas aeruginosa*. It occurs almost exclusively in elderly diabetics. Most reports have emphasized the morbidity and mortality associated with this infection. Complications include mastoiditis, osteomyelitis of the temporal bone, cranial nerve palsies and meningitis.[1-3] The case fatality rate approached 50% in the first reported series.[4]

Following is a case report of a patient with malignant external otitis whose uncomplicated course illustrates the benefits of early recognition and intensive antimicrobial chemotherapy. A review of the medical literature also emphasizes these benefits.

Case Report

A 66-year-old woman with a long history of insulin-dependent diabetes mellitus had a two-week history of persistent pain and drainage from the left ear. Five days prior to admission to the hospital, she consulted her physician, who prescribed an oral penicillin preparation and a solution containing polymixin B, neomycin and hydrocortisone for topical administration. When her symptoms failed to respond to this regimen, she was admitted to the University of Missouri Health Sciences Center for further evaluation. On admission, she was afebrile, but examination of her left ear disclosed a markedly edematous external auditory canal that was very tender to the touch and manipulation. A thin, watery discharge oozed from the canal. Gram stains of this discharge demonstrated a few gram positive cocci and gram negative bacilli; cultures subsequently yielded *Staphylococcus epidermidis* and *Pseudomonas aeruginosa*. The latter was subsequently proven by disk diffusion assays to be susceptible to both carbenicillin and tobramycin. The left tympanic membrane appeared to be normal, but an inflamed cystic-looking structure was noted in the inferior portion of the external canal. This was lanced, but no pus was recovered.

The case report in this article describes a patient with malignant external otitis caused by *Pseudomonas aeruginosa*. The patient recovered after receiving a prolonged course of parenterally administered carbenicillin and tobramycin. The case report and review of the literature emphasize the benefits of early diagnosis and intensive antimicrobial therapy.

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Admission laboratory data included a white blood cell count of 8,400/cu mm with a normal differential count; a serum glucose value of 365 mg/dl; and normal serum electrolyte values.

A diagnosis of malignant external otitis was made within hours of admission and therapy with carbenicillin (4 gm given intravenously every four hours) and tobramycin (80 mg given intravenously every 8 hours) was instituted. A Pope wick was placed in the external auditory canal and a solution containing polymixin B (10,000 units/ml) neomycin sulfate (5 mg/ml) and hydrocortisone (10 mg/ml) was instilled into the canal three times daily.

The patient responded promptly to this regimen and obtained substantial pain relief within 36 hours. Therapy was continued for four weeks. Tobramycin serum concentrations were measured on several occasions: peak values ranged from 4.6 μg/ml to 6.3 μg/ml; trough values were invariably less than 1 μg/ml. At the time of her discharge from the hospital, the patient was asymptomatic and her ear examination results were completely normal. She was seen in follow-up two months later; no evidence of infection was present.

Discussion

In 1959, Meltzer and Kelemen described an elderly diabetic with pseudomonas osteomyelitis involving the mandible and temporal bone.[5] Osteomyelitis had arisen from an otic source of infection. Nine years later, Chandler described 13 patients with pseudomonas infections of the external auditory canal and coined the term "malignant external otitis."[4] Since then, 123 additional cases have been reported.[1-3, 6-29] Our patient, an elderly woman with insulin dependent diabetes mellitus, typifies this group as a whole.

In reported cases, women have outnumbered men in a ratio of 2:1. Elderly patients also have predominated: ages cited in the literature have ranged from 35 to 91 years with a mean age of 69 years. Diabetes mellitus has been present in 123 of the 136 reported cases; most patients have required insulin therapy.

Most patients with malignant external otitis have severe ear pain and discharge from the auditory canal like our patient.[1, 2] Physical examination reveals erythema and marked edema of the external auditory canal. Manipulation of the pinna usually intensifies the patient's discomfort. If the tympanic membrane can be visualized, it will be normal in appearance. The absence of fever and other signs of systemic toxicity is noteworthy. The diagnosis rests on the presence of these clinical features and a positive culture for *Pseudomonas aeruginosa*. Total leukocyte counts are generally within normal limits, and roentgenograms of the temporal bone and mastoid do not become positive until late in the course.[1, 6]

Although cultures of the external auditory canal are positive for *Pseudomonas aeruginosa* at some time in more than 95% of cases, cultures may be negative at the time of presentation.[1, 7] In some cases, only cultures of the debridement tissue disclose the infecting organism.

Early diagnosis is essential if the natural history of the disease is to be interrupted. If patients do not receive appropriate therapy early in their course, infecting bacteria spread from the external auditory canal through the fissures of Santorini (passages in the lower cartilagenous ear canal) to soft tissues in the neck, the base of the skull and the parotid gland.[4] As these areas are affected, cranial nerves may be sequentially involved.

The facial nerve is affected first as it exits the stylomastoid foramen. Later, cranial nerves IX, X, XI and XII are compromised at the site of their exit through the jugular foramen. Eventually, the temporal bone, the mastoid air cells and even the subarachnoid space are involved.[4] From a clinical viewpoint, malignant external otitis runs a chronic course characterized by exacerbations and remissions. From an anatomic viewpoint, however, the disease progresses in an orderly and often relentless manner.

Much of the medical literature has focused on the dire prognosis of patients with malignant external otitis. As our case illustrates, however, the prognosis has improved in recent years. This improved outlook is probably due to an increased awareness by physicians and the availability of aminoglycoside and penicillin antibiotics with potent activity against *Pseudomonas aeruginosa*. Of the 136 cases reported in the literature, 72 have been presented in sufficient detail to allow an evaluation of treatment and outcome. These 72 cases are summarized in Table 1 (pages 314-315).

The importance of physician awareness (and, hence, of early aggressive management) is suggested by comparing the results of Chandler's early series[4] to those of the reports published since 1978.[8-13] In the former, six of 13 patients succumbed to their illness. In contrast, in the 22 cases published since 1978, only four of the patients died as a result of their disease.

The importance of aminoglycoside therapy also is apparent from the data summarized in Table 1. Thirty of the 72 patients were treated with antibiotics other than aminoglycosides or extended spectrum penicillins. Fifteen (50%) of these patients died as a result of their disease. The other 42 patients were treated with an aminoglycoside antibiotic (gentamicin or tobramycin) and, in many cases, with carbenicillin as well. Only six (14%) of these patients died of their disease. Our patient's course also demonstrates the value of these antimicrobial agents.

At present, we recomend combined antibiotic therapy with an aminoglycoside (gentamicin, tobramycin or amikacin) and an extended spectrum penicillin (carbenicillin, ticarcillin, mezlocillin, azlocillin, or piperacillin). The choice of a particular aminoglycoside and penicillin rests upon results of in vitro susceptibility studies with the patient's own pathogen and on local cost considerations.

Although the optimal duration of antimicrobial therapy has not been established, four weeks is a conservation minimum figure. Some patients described in the literature have required five to nine months of parenteral therapy before cure was achieved. Close follow-up by an otolaryngologist also is advised because the need for debridement may arise during the course of this illness. Some form of debridement has been required in most of the reported cases (Table 1).

TABLE 1
SUMMARY OF CASES — CHRONOLOGICAL ORDER

Reference	*Patient Age/Sex*	*Antibiotic Therapy**	*Surgery†*	*Outcome‡ (Duration)*
5	61/M	Chl, Str	D	D (8 mos)
4	85/F	U	D	S (2 mos)
	75/M	U	D	D (1-2 mos)
	67/F	Chl, Co	P	D (4 mos)
	78/M	Co, U	D	S (3-4 mos)
	58/F	Tet, N, P, B	D	D (2-3 mos)
	76/F	Pen, Chl, N, P	D	S (1-2 mos)
	35/F	Co, Pen, Str	D	S (1-2 mos)
	51/F	Co, Pen, Str	D, M	D (7 mos)
	71/M	—	D, M	S (4-5 mos)
	48/F	Co, N, P, B, A	D	S (2-3 yrs)
	87/F	Co, P	D	D (4 mos)
	62/M	Co, U	D	S (2 mos)
	82/F	Cor, Co, E, Pen	D	D (2 mos)
6	69/M	Co	D, P	D (4 mos)
	58/M	Co	D, M	D (6 mos)
	65/M	Co, Pen	C	D (unknown)
16	64/M	A, C	M	S (3-4 mos)
20	62/M	A, C, T	M	S (4 mos)
22	64/F	A, C	D	S (4 mos)
24	75/F	A, C	—	S (14 mos)
18	67/M	A, C	M &/ or D	S (unknown)
	53/M			
	54/M			
7	60/F	C	D	Unknown
	58/M	C	D, M	S (unknown)
	50/F	Pen	M	D (unknown)
26	69/-	A, C	—	S (3 mos)
3	67/F	Co, Pen	M	D (7 mos)
	61/F	Co, Pen	D	S (3 mos)
	54/F	Cep, Co	D	S (2 mos)
14	68/F	U	D, M	D (4 mos)
	59/M	Tet, Str	Pi	S (3 mos)
23	69/F	Tet, C	D	D (4 mos)
1	58/M	Co	D, M	D (4 mos)
	83/F	A	P, D	D (5 mos)
	81/M	E	D, M	S (6 mos)
	"old"/M	Co	D	D (8 mos)
15	62/F	Pen, Cep, A, C	D, M	S (8 mos)
2	77/M	Pen, Co, Cep	M	D (10 mos)
	83/M	Co, A, C	D	S (2-3 mos)
	61/M	Co, C	—	S (10 mos)
17	41/F	A, C, Cts	—	D (7 mos)
21	54/F	A, C	M	S (19 mos)
	77/M	A, C, U	D	S (5 mos)
	70/M	A, C	—	S (4 mos)
25	67/F	Co, A, C	M, Par	S (in hospital 108 days)
	75/F	Co, A, C, Cot	—	S (in hospital 44 days)
	85/M	A	—	S (in hospital 33 days)

→

TABLE 1 (Continued)
SUMMARY OF CASES — CHRONOLOGICAL ORDER

Reference	*Patient Age/Sex*	*Antibiotic Therapy**	*Surgery†*	*Outcome‡ (Duration)*
	76/M	Co, Cot	P	S (in hospital 20 days)
10	75/M	Pen, A, C	P, M	S (4 mos)
	57/M	Co, E, Chl, Pen, A, C	—	S (7 mos)
9	61/M	G, U	D × 2 M × 1	S × 4 (unknown) D × 1 (5 mos)
	65/M			
	69/M			
	75/M			
	68/F			
11	46/F	A, C	P, M	S (8-10 mos)
	74/M	A, C	D	S (5 mos)
	75/M	A, C	M	S (3 mos)
8	78/M	Co, Cep, A	M	D (4 mos)
12	55/M	P, B, Cep, O_2	D	S (20 days treatment)
13	69/-	A, C	—	S (18 mos)
19	59/M	A	M	S (in hospital 99 days)
	75/M	A, C	—	S (in hospital 49 days)
	59/M	A, C	M, C	D (in hospital 83 days)
	69/M	A, C	M	D (in hospital 81 days)
	59/M	A	M, D	S (in hospital 55 days)
	80/M	A, C	M	S (in hospital 42 days)
	67/M	A, C	M	S (in hospital 155 days)
	55/M	A, C	D	S (in hospital 23 days)
	83/M	A, C	D, M	S (in hospital 30 days)

* C = carbenicillin
A = aminoglycoside
Cor = cortisporin
Tet = tetracycline
E = erythromycin
Cts = cortisone

Chl = chloramphenicol
Cep = cephalosporin
Pen = penicillin
P = polymixin B
N = neomycin
U = unspecified

T = ticarcillin
Co = colistin
CoT = coTrimoxazole
B = bacitracin
Str = streptomycin
O_2 = hyperbaric O_2

† M = mastoidectomy
D = debridement, degranulation
P = polypectomy
Pi = pinnectomy

C = craniotomy
Par = parotidectomy
U = unspecified

‡ S = survived
D = died
( ) = total duration of illness or treatment

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Current Status of Missouri Kidney Transplant Patients

As of Dec. 31, 1982, 502 end-stage renal disease (ESRD) patients had received renal allografts and were being observed by a Missouri-based transplant center. Twenty-six percent of these patients have had a functioning graft for five or more years. Sixty-four percent had received cadaver grafts and 36% had received living related grafts. Significantly, 75% of the living related transplant recipients and 51% of the cadaver graft recipients have returned to pre-illness levels of personal functioning.

The authors are members of the Transplant Study Group sponsored by the Missouri Kidney Program.

The institutions represented are the University of Missouri-Columbia School of Medicine; Washington University School of Medicine; St. Louis University School of Medicine; St. Luke's Hospital, Kansas City; The Midwest Organ Bank, Kansas City; and the Missouri Kidney Program.

Between 1963 and 1982, 1,182 kidney transplants were performed on 1,030 end-stage renal disease (ESRD) patients who are Missouri residents. Of the 1,182 transplants, 76% were cadaver grafts and 24% were from living related donors. ESRD patients who received a cadaver graft have experienced graft survival of 28% and patient survival of 62% at five years. Living related transplant patients have 62% graft survival and 82% patient survival at five years.[1]

Interest in donor specific blood transfusions has resulted in an increasing number of living related kidney transplants each year.[2] In Fiscal Year 1978-1979, 119 transplants were performed on Missouri residents and only 8% were living related. In 1981-1982, living related transplants accounted for 28% of all transplants.[3] Potential improvement in cadaver graft survival with the use of Cyclosporine A also has resulted in a renewed interest in kidney transplantation.[4]

Since 1980, representatives from the five Missouri transplant centers and two organ procurement agencies[5] have been meeting under the

TABLE 1
MISSOURI KIDNEY PROGRAM TRANSPLANT UPDATE
STATUS AS OF DEC. 31, 1982
TABLE OF SEX BY ETHNICITY

Sex	*Ethnic Group*					
Frequency *Percent* *Row PCT* *Col PCT*	*White*	*Non-White*	*Mexican*	*Other*	*Unknown*	*Total*
Male	228	65	1	0	1	295
	45.42	12.95	0.20	0.00	0.20	58.76
	77.29	22.03	0.34	0.00	0.34	
	57.14	66.33	50.00	0.00	50.00	
Female	171	33	1	1	1	207
	34.06	6.57	0.20	0.20	0.20	41.24
	82.61	15.94	0.48	0.48	0.48	
	42.86	33.67	50.00	100.00	50.00	
Total	399	98	2	1	2	502
	79.48	19.52	0.40	0.20	0.40	100.00

auspices of the Missouri Kidney Program (MoKP), to exchange information and develop cooperative research proposals. Quickly, it was recognized that a mechanism was needed to evaluate the success or failure of kidney transplantation in Missouri. As a result, a transplant data system was developed. The results of the first semiannual survey are reported here to provide other physicians with a synopsis of the state of the art in Missouri.

Methods

The Missouri Kidney Program maintains a computerized ESRD patient data base. Basic demographic, geographic and treatment data items are maintained on more than 3,000 Missouri residents who have been treated for chronic kidney failure. However, the interests of the transplant study group exceeded the data items historically collected by the MoKP. Therefore, an expanded data base was developed with the guidance of the transplant community. Key clinical factors that were added include serum creatinine levels, types of immunosuppressive therapy and rehabilitation status.

A computer-generated transplant patient roster was provided to each transplant center for updating. Patients listed were known to have a functioning graft as of Dec. 31, 1982. The purpose of this semiannual update is to monitor the clinical status of transplant patients and begin developing a clinical data base for further research efforts.

Results

It is important to note that the results of this study are not representative of all ESRD patients who received transplants. Rather, it is a "cut in

TABLE 2
MISSOURI KIDNEY PROGRAM TRANSPLANT UPDATE
STATUS AS OF DEC. 31, 1982
TABLE OF AGE CATEGORY BY TRANSPLANT TYPE

Age Cat	*Tx Type*		
Frequency *Percent* *Row PCT* *Col PCT*	C	R	*TOTAL*
0-19	12	13	25
	2.39	2.59	4.98
	48.00	52.00	
	3.75	7.14	
20-39	140	111	251
	27.89	22.11	50.00
	55.78	44.22	
	43.75	60.99	
40-59	152	58	210
	30.28	11.55	41.83
	72.38	27.62	
	47.50	31.87	
60+	16	0	16
	3.19	0.00	3.19
	100.00	0.00	
	5.00	0.00	
Total	320	182	502
	63.75	36.25	100.00

TABLE 3
MISSOURI KIDNEY PROGRAM TRANSPLANT UPDATE (DEC. 31, 1982)
DISTRIBUTION BY PRIMARY DIAGNOSIS
N = 502

Diagnosis	*N*	*% of Total*	*Distribution for all Missouri ESRD Patients N = 2850*
1. Primary Hypertension	50	9.96	13.33%
2. Glomerulonephritis	153	30.48	15.86%
3. Diabetic Nephropathy	52	10.34	11.72%
4. Polycystic Kidney Disease	14	2.79	4.35%
5. Hereditary Interstitial Nephritis	13	2.59	.9%
6. Pyelonephritis	36	7.17	(See Other)
7. Nephroschlerosis	13	2.59	(See Other)
8. Unknown etiology	11	2.19	4.4%
9. Not reported	105	20.91	29.96%
10. Other	55	10.98	19.48%
Total	502	100%	100%

time" that describes the status of the transplant patients in Missouri.

As of Dec. 31, 1982, there were 502 transplant patients known to have a functioning kidney transplant. Table 1 identifies their demographic composition. Although the white ESRD patients comprise 70% of the ESRD population in Missouri, they account for 80% of the transplant patient census. The poorer graft survival of the nonwhite population may explain this variation. However, the nonwhite female patients are substantially underrepresented in the transplant census at 7% compared to 13% in the total ESRD population.

TABLE 4
MISSOURI KIDNEY PROGRAM TRANSPLANT UPDATE (DEC. 31, 1982)
GRAFT FUNCTION BY TYPE OF TRANSPLANT
N = 502

Graft Function	*Cadaver* #/%	*Living-Related* #/%	*Total* #/%
Less than 1 year	58/18%	41/23%	99/20%
1-3 years	104/32%	68/37%	172/34%
3-5 years	71/22%	29/16%	100/20%
5-10 years	85/27%	37/20%	122/24%
Over 10 years	2/1%	7/4%	9/2%
Total	320/100%	182/100%	502/100%

Table 2 describes the transplant patient population by age group and transplant type. Living related transplant patients are substantially younger than the cadaver graft recipients (68% under age 40 compared to 47%). The mean age for all patients reviewed was 39 years with the youngest reported to be six years old and the oldest 70 years of age (as of Dec. 31, 1982).

The primary diagnosis of all 502 transplant patients is described in Table 3. More than 30% of the transplant patients have been diagnosed with glomerulonephritis, which is twice the prevalence in the total ESRD population. Hereditary interstitial nephritis is also overrepresented in the transplanted population.

The length of time the transplanted graft has functioned is presented in Table 4. It is encouraging to note that 26% of the transplant patients have had a functioning graft for five or more years.

Immunosuppressive therapy continues to be dominated by the use of imuran and prednisone. Cyclosporine A has not been available to Missouri transplant centers.

Table 5 documents the rehabilitation status of Missouri transplant patients. Seventy-five per

TABLE 5
MISSOURI KIDNEY PROGRAM TRANSPLANT UPDATE (Dec. 31, 1982)
REHABILITATION STATUS BY TYPE OF TRANSPLANT
N = 502

	Living Related N	%	*Cadaver* N	%
1. Complete Physical/Mental Disability	1	.5	5	1.7
2. Significant Physical/Mental Disability and Unable to Work or Attend School	9	5	29	9.8
3. Significant Physical/Mental Disability but Works or Attends School Part or Full Time	6	3.5	21	7.1
4. Slight Physical/Mental Disability but Unable to Work or Attend School	14	8	37	12.5
5. Slight Physical/Mental Disability but Works or Attends School Full or Part Time at Lower Performance Level	14	8	47	15.5
6. Works or Attends School at Pre-Illness Level	130	75	151	50.5
7. Unknown			6	2.9
8. Not Reported (32)				
Total*	174	100	296	100

* Totals exclude 32 patients for whom no rehabilitation data was available.

cent of the living related transplant patients and 51% of the cadaver graft recipients have returned to pre-illness level of personal functioning.

Discussion

The data from this multicenter survey are descriptive of the Missouri transplant patient census as of Dec. 31, 1982. Maintenance of a semiannual survey cycle will allow us to observe changes in the transplant prevalence over time. However, this first report is encouraging, particularly in regard to the rehabilitation status of the transplant patients. Recent reviews of the rehabilitation status of dialysis patients has been most discouraging.[6] A 1982 limited survey of ESRD patients in the Greater St. Louis Area revealed that only 24% of all ESRD patients maintained employment or attended school.[7]

It is readily acknowledged that the mean age of the transplant recipient is substantially less than that of the dialysis patient. However, as the selection criteria for dialysis patients has broadened, so has the acceptance standards for renal transplantation. The patient with diabetic nephropathy is well represented in the transplant census.

In conclusion, the results of this survey suggest that renal transplant patients are experiencing an acceptable level of graft success and are returning to encouraging levels of premorbid functioning.

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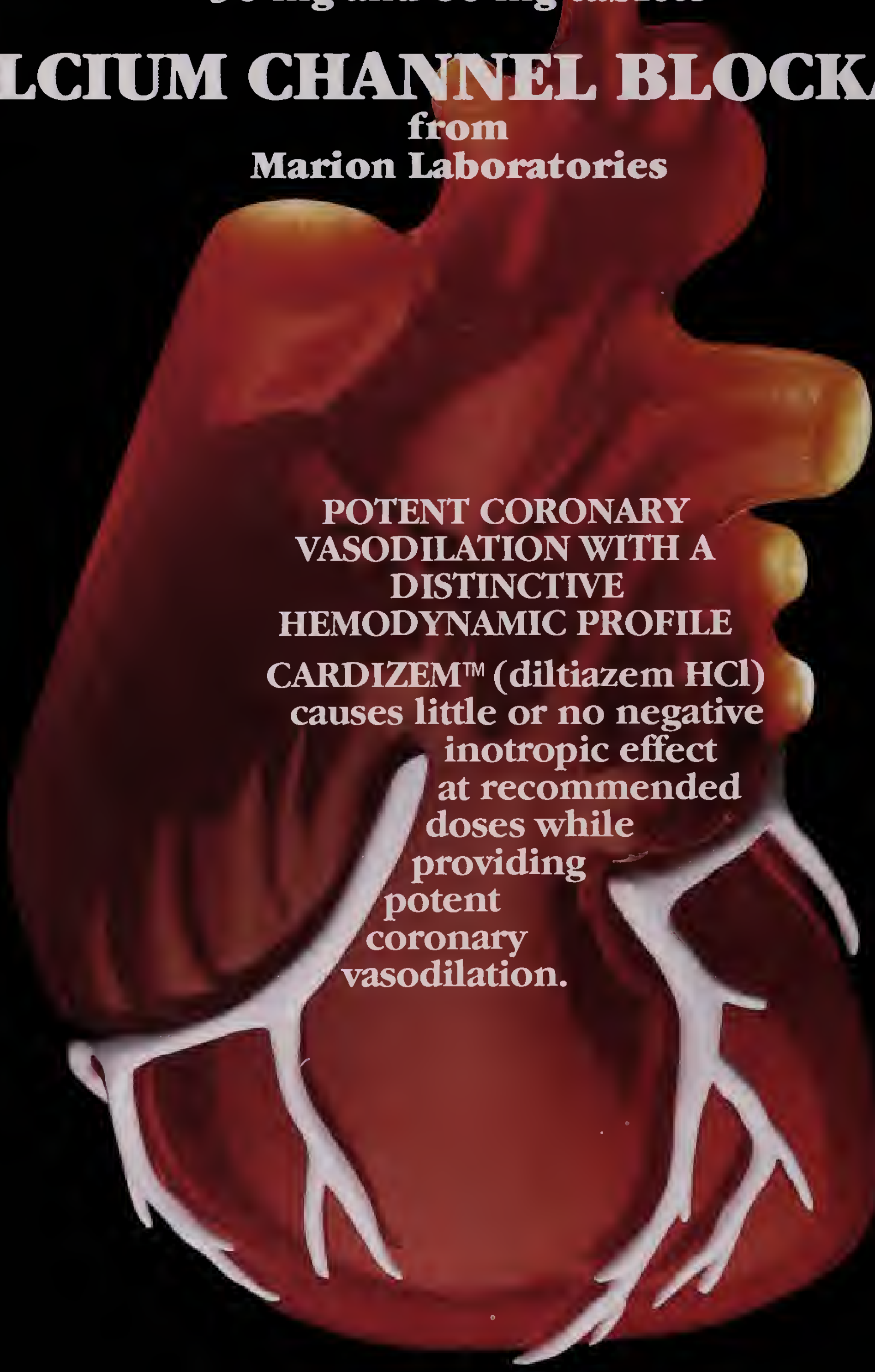

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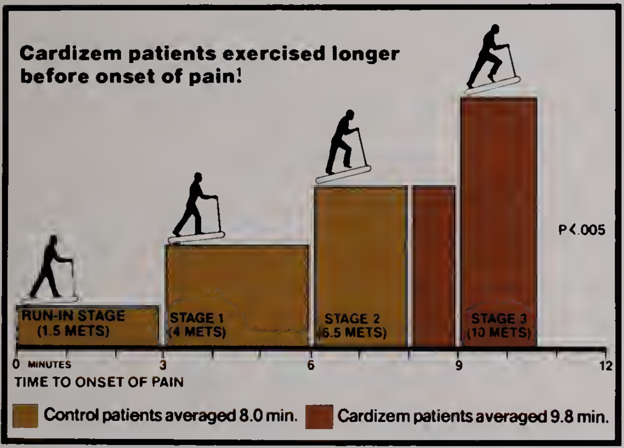
CARDIZEM™ (diltiazem HCl) ALLOWS PATIENTS TO SIGNIFICANTLY PROLONG EXERCISE TOLERANCE, EVEN IN DEMANDING BRUCE PROTOCOL EXERCISE TESTS[1] (n = 15)†



This study is of special significance because patients not only exercised longer but *to the next higher stage* in the Bruce protocol.

A Bruce protocol with a run-in stage was used for all tests. Each stage lasts three minutes.

In other studies, Cardizem produced 41% to 68% reduction of Prinzmetal's variant angina attacks[2]

†This study is a report from one center in a multicenter study.

Therapy with Cardizem produced a low incidence of side effects.

In placebo-controlled trials (222 patients) conducted in the United States, the incidence of adverse reactions reported during Cardizem therapy was not greater than that reported during placebo therapy.

References:
1. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. *Chest* 78 (July suppl): 234-238, 1980.
2. Schroeder JS, Feldman RL, Giles TD, et al: Multiclinic controlled trial of diltiazem for Prinzmetal's angina. *Am J Med* 72:227-232, 1982.

© 1983, Marion Laboratories, Inc.

Those adverse reactions reported most frequently with Cardizem in 959 patients in controlled and uncontrolled U.S. trials have been:

• Nausea	2.7%
• Swelling/edema	2.4%
• Arrhythmia	2.0%
• Headache	2.0%
• Rash	1.8%
• Fatigue	1.1%

Other reactions reported infrequently (less than 1%) are listed in full prescribing information on adjacent page.

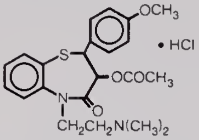
**Please see adjacent page for full prescribing information.*

PROFESSIONAL USE INFORMATION

cardizem™
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM™ (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate/blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent as a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents. CARDIZEM has been effective in short-term controlled trials in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness is incomplete.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (four of 959 patients for 0.42%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** There has been a single report in a patient receiving 120 mg of diltiazem tid of marked transaminase elevation (SGOT 4500, SGPT 2300) accompanied by hyperbilirubinemia (to 3 mg%), occurring after four days of treatment. The enzyme abnormalities resolved entirely, and enzymes were nearly normal a week after cessation of treatment. No rechallenge was carried out, but the patient had no evidence of viral hepatitis and received no other drugs but isosorbide dinitrate.

   No other similar liver injury has been reported in clinical trials, but marketing experience in Europe has resulted in a rechallenge-confirmed instance of hepatocellular injury. However, it should be noted that there have been further episodes of raised transaminases in the absence of diltiazem in this patient, so that the relationship to diltiazem of the abnormalities is not completely clear. Other instances of transaminase elevation have been reported in Europe, but their relationship to the drug is uncertain.

PRECAUTIONS

General. CARDIZEM is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities; the effect of diltiazem on serum digoxin levels has not been examined. The safety of the combination of CARDIZEM and beta-blockers or digitalis is currently being investigated in well-controlled studies.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded. Experience with an added beta-blocker is also extremely limited.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

In addition, the following have been reported infrequently and represent occurrences which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are nausea (2.7%), swelling/edema (2.4%), arrhythmia (2.0%), headache (2.0%), rash (1.8%), and fatigue (1.1%). In addition, the following events were reported infrequently (<1.0%). The order of presentation corresponds to the relative frequency of occurrence.

Cardiovascular:	Flushing, congestive heart failure, bradycardia, hypotension, syncope, pounding heart.
Central Nervous System:	Drowsiness, dizziness, lightheadedness, nervousness, depression, weakness, insomnia, confusion, hallucinations.
Gastrointestinal:	Vomiting, diarrhea, gastric upset, constipation, indigestion, pyrosis.
Dermatologic:	Pruritus, petechiae, urticaria.
Other:	Photosensitivity, nocturia, thirst, paresthesias, polyuria, osteoarticular pain.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

Experience in 959 patients taking oral doses of CARDIZEM resulted in three cases (0.31%) of second-degree AV block and one case (0.10%) of third-degree AV block at doses of 240 to 360 mg daily.

In rare instances, mild to moderate transient elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK have been noted during CARDIZEM therapy. A single incident of markedly elevated liver enzymes associated with symptoms was reported in a patient taking 360 mg per day for four days. Drug was discontinued and enzymes normalized within 1 week.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experiences with oral diltiazem have not been reported. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually to 240 mg (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. The effectiveness and safety of dosages exceeding 240 mg per day are currently being investigated. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents.

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

CARDIZEM 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 11/82

Another patient benefit product from
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MARION
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KANSAS CITY, MISSOURI 64137

3/83

President's Message

The public and media now have evidence of the impact of political control of medical care by budgetary restrictions of prescriptions without physician consultation.

The denial of a specific medication to a Medicaid patient by the Missouri Department of Social Services was cited in an editorial in a major Missouri newspaper entitled "Pound-Foolish and Cruel." The denial of this medication probably contributed to a patient's ability to cope with her disease. The appeal to the state made on Dec. 1, 1983 "was still grinding its way through the bureaucratic maze at the time she (the patient) died two-and-one half months later."

James M. Stokes, M.D.
St. Louis

The director of the Department of Social Services says that the death "has prompted a review of the list of approved drugs." Another member of the Department points out "the denial of the (prescription) drug could have resulted in far greater expense to the state (Medicaid). Had this patient reached the hospital before dying, the state would have been faced with bills of hundreds or thousands times more than what it would have cost to provide her with the $1-a-pill drug that she required to live."

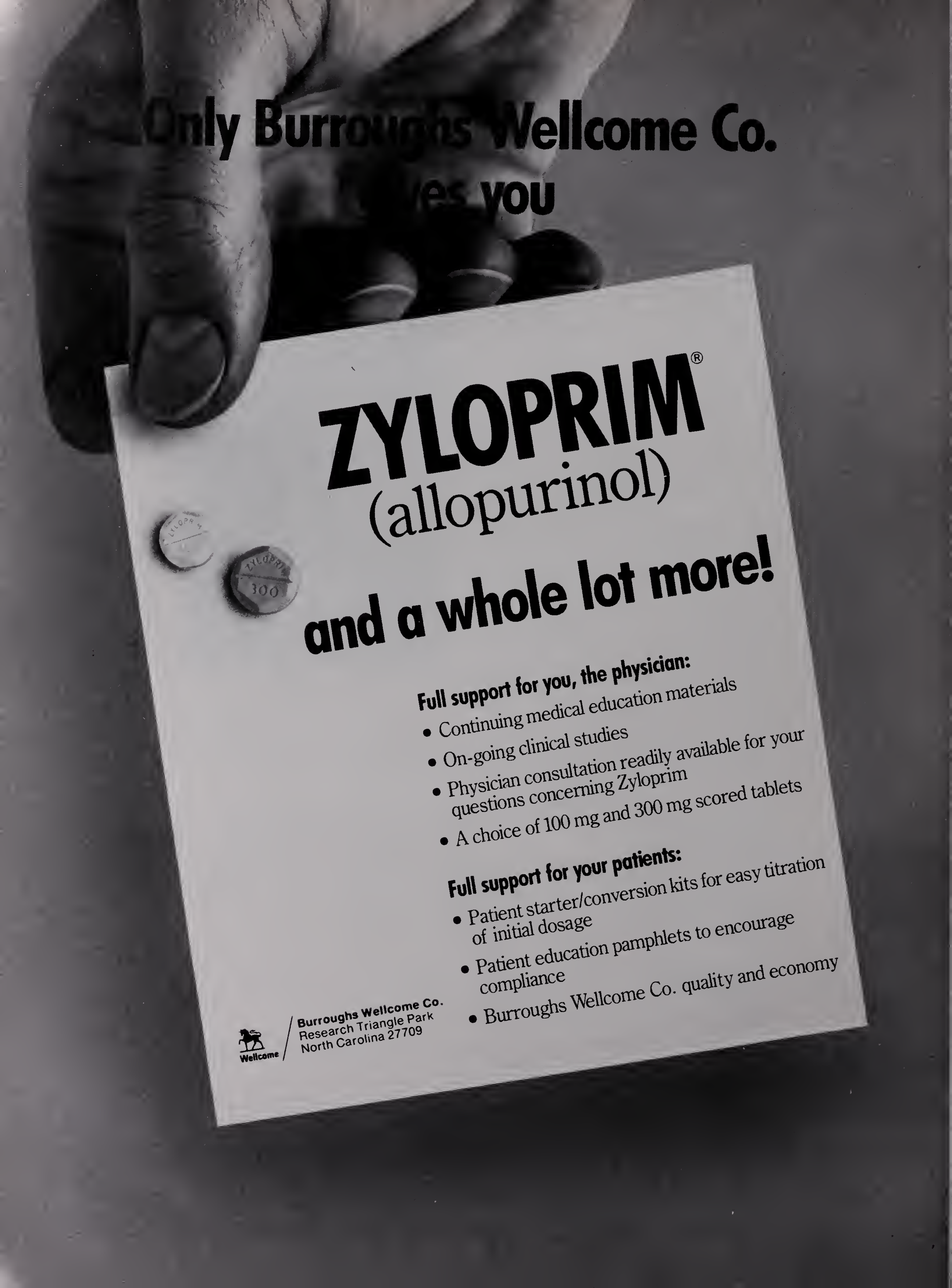
The Joint Physician/Pharmacy Subcommittee of the Medical Advisory Committee to DOSS has recommended on several occasions that the state adopt an "open formulary" or, at the very least, expand the current "closed formulary." Committee members have indicated that studies show that an "open formulary" is no more expensive than the restrictive list now utilized.

It has also been pointed out that the current system continues to favor the more expensive, institutional-type care since hospitalized patients are not subject to the "closed formulary."

There is an "exception process" that provides a mechanism whereby consideration may be given to any special or unusual medical needs of Medicaid recipients, and physicians should be aware of this process to assist their patients. Either the recipient or the physician should contact the Recipient Services Unit at 1-800-392-2161 or 1-314-751-2514.

Perhaps the greatest problems of the Medicaid program are the failure of the system to recognize those instances when it is absolutely necessary to consult a professional for advice in controversial decisions and the apparent absence of a physician in the structure of DOSS who is concerned with medical treatment.

Most physicians would cooperate in such an effort. The alternative is medical practice by political decision, an impossible method for patient care and untenable for responsible legislators.



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MSMA Auxiliary

PROPER PERSPECTIVE

At a meeting recently, I heard a legislator say that there are 150 physicians, four chiropractors and two psychologists in his district. He stated that he had received constant personal communication from the chiropractors, a little from the psychologists, and none from the physicians. He went on to suggest that physicians would rather pay their lobbyists to do their work, and that the lobbyists did a good job providing information and had their place. However, when a gray decision had to be made, most legislators' votes were swayed by those personal contacts. This meeting was in another state — but is Missouri different?

Mrs. Richard Bowles
President

In early May, a traveling team of MSMA Auxiliary officers presented Workshops in Kansas City, Springfield, St. Louis and Cape Girardeau. Topics covered at the Workshops and officers making the presentations were the following:

Membership	Gayle Vilmer (Stephen)
Legislation	Sandy Mitchell (John)
Health Projects	Eileen Dyer (Gary)
Fund Raising	Pattye Barbee (Charles)
Parliamentary Procedure	Mary Kay McPhee (William) and Dr. Georgia Bowman
Professional Skills Development	Chris Bohigian (George)

Being mindful of the ever-present reality of the importance of legislation in our lives, a legislator was invited to speak at each workshop. Again, we were admonished to establish personal relationships with our legislators, to give constant attention to the bills introduced, and to make our opinions known.

The varied demands on our lives present a constant challenge. Perhaps the only way we Auxilians can place all the worthwhile requests and activities in proper perspective in our lives is to set priorities. When the physician's spouse considers that the Medical Association Auxiliary is the one organization designed *solely* for physicians' spouses with their goals in mind, membership and activity in the Auxiliary will undoubtedly receive high priority.

Doctor, your spouse has the vested interest and qualification to become an Auxiliary member, to get involved with the realities confronting us and to participate in promoting Medicine. If this responsibility is negated, no one else can do it. Please lend your encouragement and support to your spouse's participation in the Auxiliary. We all will benefit enormously!

DOUGLAS G. VIEHLAND, *Columbia*

Health Maintenance Organizations

Part II — An Excerpt From a Study of Missouri Health Maintenance Organizations, Preferred Provider Organizations, Hospital Satellite Clinics and Freestanding Emergency Care Centers

Explanation

"*Resolved*, that the Missouri State Medical Association, through its Commission on Medical Economics, Third Party Medicine and Governmental Relations, monitor Health Maintenance Organizations, Individual Practice Associations, Preferred Provider Organizations and hospital satellite clinic practices in this state for the next five years, reporting annually to the Council on the extent of this type of activity and assess, as far as possible, the overall impact that it has on the medical profession in the State of Missouri."*

The above Resolution #2 was adopted at the 1982 Annual Convention of the Missouri State Medical Association. The first part of the five-part series was presented to the MSMA Council in January, 1983. It set forth definitions to be used throughout the series and a directory of all known entities.

Part Two was completed in March, 1984 and provides the results of an indepth survey conducted during the summer and fall of 1983. The survey was made of these entities to learn how they are structured, their length of operation, the benefits and services offered, and their financial operations.

While the full report is available to MSMA members, a summary of this report will be presented in Missouri Medicine. In this issue, the second part of the four-part series examines free-standing emergency centers.

At the time this survey was conducted, Mr. Viehland was Director of Government Relations for the Missouri State Medical Association. On June 1, he assumed the assignment of Executive Director of the Boone County Medical Society, Columbia.

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* In 1982, the Commission on Medical Economics broadened the scope of the entities to be studied to include freestanding emergency centers.

In 1983, the Missouri State Medical Association (MSMA) identified a total of eight Health Maintenance Organizations (HMO) operating in the State of Missouri. In 1984, the MSMA identified a total of nine. Two additional HMOs were identified in St. Louis while two previously identified HMOs in St. Louis (Midwest Health Plan and Group Health Plan of Greater St. Louis) merged to form Group Health Plan of Greater St. Louis. Of these nine plans, two were preoperational.

The nine HMOs are as follows:

St. Louis Labor Health Institute 300 South Grand Blvd. St. Louis, Mo. 63130 (314) 658-5621	Edward J. Berger, M.D. *Medical Director*
Medical Care Group of St. Louis 4255 West Pine St. Louis, Mo. 63108 (314) 534-5700	Lawrence Kahn, M.D. *Medical Director* Ralph Alexander *President*
Community Group Health Plan d/b/a Prime Health 6801 East 117th Street Kansas City, Mo. (816) 765-6200	Michael R. Soper, M.D. *Medical Director* Robert F. Rasmussen *Executive Director*
Kansas City Health Care P. O. Box 1709 Shawnee Mission, Kan. 66222 (913) 588-1252	William Emmot, M.D. *Medical Director* Patrick A. Thompson *Executive Director*
Health Plan of Mid-America (pre-operational) 4510 Belleview, Suite 104 Kansas City, Mo. 64111 (816) 753-8997	R. Don Blim, M.D. *Medical Director* Linda Laitner *(Acting) Executive Director*
Total Health Care P. O. Box 23163 Kansas City, Mo. 64141 (816) 932-5800	Richard Michelson, M.D. *Medical Director* Sy Kaplan *Executive Director*
Group Health Plan of Greater St. Louis 10822 Sunset Plaza St. Louis, Mo. 63127 (314) 821-7840	Margarethe Hagemann, M.D. *Medical Director* Ron Lodder *President*
Maxicare (pre-operational) 500 N. W. Plaza, Room 515 St. Ann, Mo. 63074 (314) 344-9972	Richard Fallon, M.D. *Medical Director* Gregory Stobbe *Executive Director*
Individual Practice Program Blue Cross/Blue Shield of St. Louis 4444 Forest Park St. Louis, Mo. 63108 (314) 568-5086	Vencel Hollo, M.D. *Medical Director* Charles A. Davis, M.D. *Executive Director*

Beyond updating the directory of HMOs, Part II of this series provides the results of an indepth survey of HMOs and how they are structured, their length of operation, staffing levels, benefits or services offered, patient access to care and financial operations. The survey results were compiled during the summer and fall of 1983. All nine HMOs responded to the survey although the two that were preoperational at the time could provide only limited data. The following is a summary of the areas addressed in the questionnaire.

Enrollment: Membership in Missouri HMOs increased dramatically from 94,521 on Jan. 1, 1982 to 130,443 on Jan. 1, 1983 and had risen to 136,058 by July 1, 1983. During 1982, three plans became operational and one plan (Total Health Care) increased its enrollment from 3,900 to almost 20,000 enrollees. Prime Health had the largest enrollment of 47,611 on July 1, 1983 and Kansas City Health Care was just becoming operational with 856 members.

Benefit Packages: All nine HMOs responded to the questions regarding the types of services and benefits offered by the organization and the corresponding deductibles, copayments and benefit limitations. The three Individual Practice Associations (IPA) offered the widest variety with one offering the most restrictive (in terms of benefit, copayments, deductibles and limitations) package, while another offered the least restrictive package. The non-IPA plans were grouped closely in terms of their offerings.

Monthly Prepayments: For the Calendar Year 1983, the monthly prepayments for the eight plans that responded to this question were as follows:

Individual		Family	
Range:	$68-102	Range:	$166-$250
Average:	$79	Average:	$195
Median:	$74	Median:	$190

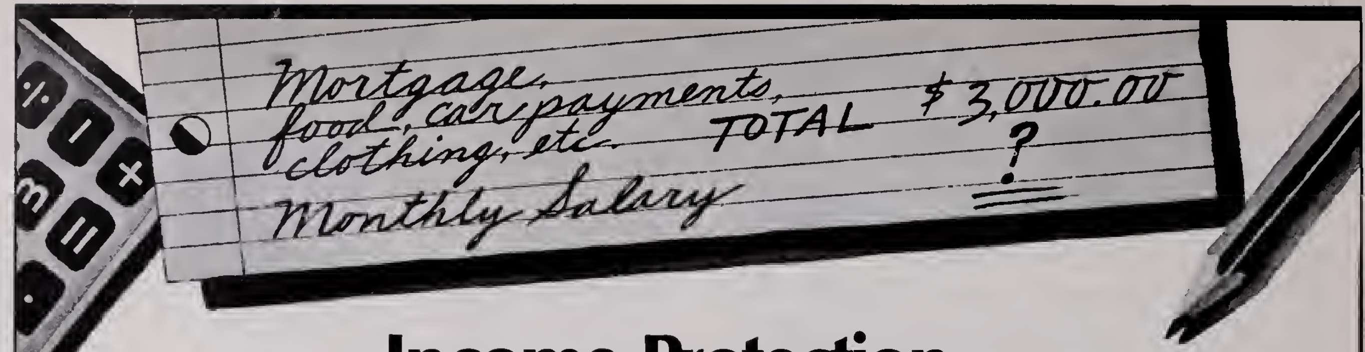
The average increase in the monthly prepayment for 1982 to 1983 was 11%. Five of the plans offered supplemental Medicare coverage with a monthly prepayment average of $36.44 and a median of $48.20 per month.

Staffing Levels: A series of questions and answers regarding both physician and non-physician staffing levels led to the development of a chart showing staffing levels by specialty and non-physician practitioners at each clinic site or health plan. The information does not easily lend itself to a summary here. A further series of questions determined the availability of on-site laboratory facilities (largely available at all sites) and ambulatory encounters per enrollee/per year. Five of the nine responded to this last question. The two IPAs had both the lowest (2.0) and the highest (4.5) figures. The three non-IPA models fell into a range of 3.6-4.4.

Patient Access to Care: Fifteen questions attempted to determine the physician/patient relationship and access to care. The following is a summary of the results:

- In eight of the nine plans, the patient chooses the primary care physician while in one, the patient is assigned. From this and subsequent questions, it appears that all HMOs facilitate the establishment and continuity of a physician/patient relationship, including some that utilize a "gatekeeper" concept.
- All plans have a procedure that permits the patient to terminate a relationship with a physician and a physician to refuse or terminate treating a patient, although the procedures vary widely.
- Routine office visits are arranged by the subscriber. Regarding the waiting time for a subscriber to obtain an appointment, the general response was that patient emergencies are taken on the same day, while routine appointments may require a wait of up to two weeks.
- Four of the plans calculate the length of time the patient spent in the waiting room, while four do not (including the IPAs). The four responses were 20 minutes, 10 minutes, 15 minutes and 10 to 15 minutes.
- In response to a question about the policy with regard to the provision of charity care, three plans stated "does not apply," three responded that they do not provide this care. Regarding future consideration of such a policy, it appears that the plans intend to maintain their current policy or lack of it.

The survey and directory has provided a greater awareness of operation of the Missouri HMOs. As far as can be determined, the data provided herein have not been published in other studies. Not only is this information valuable to the purposes of this study, but it also can be of value to each of the entities surveyed for comparison of their operation with the statewide data.



Income Protection
That Keeps Working When You Can't

Your health isn't the only casualty of unexpected disability. Your income suffers too. And financial headaches are the last thing you need when you're disabled.

You may not be able to prevent a disabling accident or sickness. But you can protect your financial security with Disability Income Insurance. It provides a steady, continuing income when you can't.

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Special Article

Missouri's Medical Examiner-Coroner System

By
Jay Dix, M.D.,*
Columbia

EACH TIME I receive a call about a death in a distant Missouri county, I reconsider the problems inherent in a state in which two different medical-legal systems are in operation. The majority of Missouri's 114 counties still use the antiquated and now inefficient coroner's system. In the remaining counties, the medical examiner system represents an improvement, but it also has its drawbacks. Although the medical examiners and coroners of the state perform admirably, the importance of death investigation and its moral, financial and legal consequences warrants a more modern, professional system for the entire state. More specifically, Missouri citizens deserve quality in the field of forensic pathology, a demand that must be met by the medical profession.

Prior to 1974, all of Missouri's counties operated under a coroner system. In that year, however, a state statute was passed allowing counties of a designated size or property valuation to change from a coroner to medical examiner system by popular vote. Unfortunately, this law did not affect many of Missouri's counties that were either too small or too poor to qualify. Thus, most of our state's counties still use an archaic system first conceived in 12th century England.

The coroner's system is replete with problems. First of all, a coroner must be elected and, thus, the job assumes certain political overtones. Secondly, a coroner need not be a member of the medical profession. He is required to investigate those deaths that occur under suspicious circumstances as well as all homicides, suicides and accidents. However, the only qualification for election is that he be a registered voter of the county. In other words, anyone from the local hardware store salesman to an ambulance attendant may hold this position. Frequently, the office is held by a funeral director, presumably because his day-to-day dealings with death make him the obvious choice. Occasionally, a local physician takes the job because he feels a sense of civic responsibility. Whatever their motivations, the people who serve as Missouri's coroners often lack the experience and training necessary for quality death investigation.

In addition, the coroner not only must make determinations about many different types of deaths, he must also take control of each body and decide if an autopsy is needed. If he is unable to obtain permission for an autopsy from the next of kin, he must go through the arduous task of calling an inquest. This group of peers must see the body, examine the evidence and then make a decision about a postmortem examination. The entire procedure for obtaining an autopsy is unwieldy and inconsistent. Last, but perhaps not least, the budget awarded to coroners is notoriously inadequate. As a consequence, many deaths are incompletely investigated because the money for autopsies is frequently unavailable.

In those counties that use the new medical examiner system, many important changes have occurred to update and professionalize the investigation of death. Most importantly, the medical examiner must be a licensed physician. Furthermore, his position is not an elected one because he is appointed by the governing body of the county. He alone makes the decision if an autopsy is necessary; he does not have to "fight the red tape" of obtaining permission from the next of kin or calling an inquest of his peers. Thus, the medical examiner can work quickly and efficiently when a violent or suspicious death occurs to obtain all the facts and evidence that are needed. Though these basic changes represent a vast improvement, the medical examiner system still has its weaknesses.

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* Dr. Dix is from the Department of Pathology, University of Missouri-Columbia School of Medicine.

The licensed physician who serves as medical examiner for a county may be a surgeon, a family practitioner, a pediatrician or from any other of a variety of specialties. His knowledge of death investigation may not be any more than that of the lay coroner. Indeed, the physician's medical training certainly helps him understand the pathophysiology of death, but it may be inadequate for understanding violent or suspicious deaths, especially when they occur outside the hospital.

Furthermore, studying the body and its relationship to the surroundings that may give clues as to the time and circumstances of death are not part of general medical training. The examination of the crime scene and the valuable information it holds are not always apparent to the untrained eye. The typical physician who serves part time as a medical examiner rarely has extra time to devote to workshops and seminars that might broaden his ability in this important field.

Of the approximately ten medical-examiner counties within the state, less than five are served by trained forensic pathologists. With only 600 board certified forensic pathologists in the entire country, it is not difficult to see why there are too few to go around. Most states attempt to solve this problem by having either a statewide or districtwide system to insure the necessary coverage. If there is no statewide system, at least most of the major metropolitan areas have trained medical examiners. This is true of Missouri. Both St. Louis and Kansas City have qualified forensic pathologists in charge of their systems. But much of the remainder of the state is without adequate coverage. Many counties must search dilligently to find any pathologist, especially one with forensic training, to perform their autopsies.

For a variety of reasons, most pathologists do not like to perform forensic autopsies. Many of them do not enjoy taking time from busy schedules to perform a duty for which they have not been specifically trained. Many have not dealt with violent death, and this lack of expertise is further exacerbated by the possibility of having to testify in court if the case should go to trial. Occasionally, the case involves the examination of a decomposed body. Even under ideal conditions, determining the cause of death in a putrefied body is difficult, and contending with the odor makes the task even less desirable.

What can be done to professionalize Missouri's approach to the important problem of death investigation? First of all, the antiquated coroner's system must be eliminated. The medical examiner system offers the only practical and efficient alternative. However, a statewide system would not be feasible in this state because Missouri has two metropolitan areas separated by a largely rural population. St. Louis and Kansas City, and their surrounding counties, should each be controlled by a forensically trained medical examiner, as is presently the case. The rest of the state should be divided into three or four districts, each headed by a forensic pathologist with trained investigators in each county.

These investigators would have easy access to the medical examiner to discuss all deaths that occur and to determine which cases should be autopsied. All cases for which autopsies are necessary should be transported to a central laboratory that has the necessary equipment and expertise available on a full-time basis. Each district should be part of a separately funded, independent state agency. The cost of the district centers would be borne by the counties in each jurisdiction with supplementation if necessary by the state.

Missouri would be best served if a well-qualified forensic pathologist were found to head each district. Only then will the medical-legal system be able to represent Missouri's citizens as it should.

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Taiyaba S. Ali, M.D., 332 Holloway Rd., Ballwin 63011, has become a member of St. Louis Metropolitan Medical Society. Dr. Ali is a native of India, received her preliminary education at Liaqat Medical College and her M.D. degree at the University of Lind, Liaqat College in 1969. She specializes in pediatrics.

Philip T. Barns, M.D., 4627 Pennsylvania, Apt. 206, Kansas City 64112, has become a member of Jackson County Medical Society. Dr. Barns is a native of Burlington, Iowa, received his preliminary education at the University of Iowa and his M.D. degree at the University of Iowa in 1983. He specializes in emergency medicine.

James R. Blaine, M.D., 1423 N. Jefferson, Springfield 65802, has become a member of Greene County Medical Society. Dr. Blaine is a native of Tulsa, Okla., received his preliminary education at Oklahoma State University and his M.D. degree at the University of Oklahoma in 1974. He specializes in emergency medicine.

Robert T. Burks, M.D., 3009 North Ballas Rd., St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Burks is a native of St. Louis, received his preliminary education at Southern Methodist University and his M.D. degree at St. Louis University in 1978. He specializes in orthopedic surgery.

Philip D. Dean, M.D., 301 W. Armour, Apt. 117, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Dean is a native of Lawrence, Kan., received his preliminary education at North Carolina State University and his M.D. degree at Chicago Medical School in 1983. He specializes in internal medicine.

Alan J. DuMontier, M.D., 615 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. DuMontier is a native of Honolulu, Hawaii, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice and emergency medicine.

Kristina K. Erickson, M.D., Emergency Center, University of Missouri-Columbia Health Science Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Erickson is a native of Phoenix, Ariz., received her preliminary education at the University of Michigan and her M.D. degree at the University of Missouri-Columbia in 1976. She specializes in family practice.

R. Steve Foster, M.D., 1704 S. Ingram, Sedalia 65301, has become a member of Pettis County Medical Society. Dr. Foster is a native of Emporia, Kan., received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1975. He specializes in urological surgery.

Mark J. Hoffman, M.D., 216 S. Kingshighway, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Hoffman is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at St. Louis University in 1980. He specializes in diagnostic radiology.

Mary N. Johnson, M.D., 609 Cherry, Professional Bldg., Springfield 65805, has become a member of Greene County Medical Society. Dr. Johnson is a native of West Plains, received her baccalaureate and M.D. degrees at the University of Missouri-Kansas City. She specializes in anesthesiology.

Ramesh Khanna, M.D., University of Missouri-Columbia Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Khanna is a native of India, received his preliminary education at Jai Hind College and his M.D. degree at Seth G. S. Medical College in 1967. He specializes in internal medicine and nephrology.

John W. Long, M.D., 401 Keene, Columbia 65201, has become a member of Boone County Medical Society. Dr. Long is a native of Osawatomie, Kan., received his preliminary education at Ottawa University and his M.D. degree at the University of Kansas in 1970. He specializes in cardiovascular and thoracic surgery.

Daniel F. Lyons, M.D., Suite 3200, 1965 S. Fremont, Springfield 65804, has become a member of Greene County Medical Society. Dr. Lyons is a native of Springfield, received his preliminary education at Oklahoma State University and his M.D. degree at the University of Oklahoma in 1977. He specializes in internal medicine and endocrinology.

Robert J. Olson, M.D., 2131 Pleasant Valley Rd., Springfield 65804, has become a member of Greene County Medical Society. Dr. Olson is a native of Rochester, Minn., received his preliminary education at St. Olaf College and his M.D. degree at the University of Minnesota in 1973. He specializes in diagnostic radiology.

Bert E. Park, M.D., 1900 S. National, Suite 2980, Springfield 65804, has become a member of Greene County Medical Society. Dr. Park is a native of St. Louis, received his preliminary education at Duke

University and his M.D. degree at the University of Missouri-Columbia in 1973. He specializes in neurological surgery.

Anne M. Regier, M.D., 8550 Holmes, Suite 130, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Regier is a native of Newton, Kan., received her preliminary education at the University of Kansas and her M.D. degree at the University of Southern California in 1978. She specializes in rheumatology and internal medicine.

Bruce H. Salvaggio, M.D., Medical Plaza Building, 4320 Wornall, Suite 312, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Salvaggio is a native of Kansas City, received his preliminary education at Southern Methodist University and his M.D. degree at the University of Kansas in 1978. He specializes in internal medicine.

William C. Shelley, M.D., 229 Professional Bldg., Springfield 65806, has become a member of Greene County Medical Society. Dr. Shelley is a native of Batesville, Ark., received his preliminary education at Missouri Western State College and his M.D. degree at the University of Missouri-Columbia in 1976. He specializes in anesthesiology.

James C. Speiser, M.D., 1402 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Speiser is a native of St. Louis, received his baccalaureate and M.D. degrees at the University of Missouri-Kansas City. He specializes in internal medicine.

Sylvia A. Steiling, M.D., 10007 Kennerly Rd., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Steiling is a native of Washington, D.C., received her preliminary education at Washington University and her M.D. degree at St. Louis University in 1970. She specializes in surgery.

Gino Tutera, M.D., Suite 310, 1010 Carondelet Dr., Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Tutera is a native of Rome, Italy, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1971. He specializes in obstetrics and gynecology.

Richard I. Wertheimer, M.D., Department of Neurology, M741, University of Missouri-Columbia Medical Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Wertheimer is a native of New York, N.Y., received his preliminary education at the State University of New York and his M.D. degree at Free University of Brussels, Belgium in 1978. He specializes in neurological surgery.

James D. Winthrop, M.D., 700 W. Jewel Ave., Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Winthrop is a native of Ft. Monmouth, N.J., received his preliminary education at Duke University and his M.D. degree at the University of Virginia in 1981. He specializes in diagnostic radiology.

Andy J. Wright, M.D., 1211 S. Glenstone, Springfield 65804, has become a member of Greene County Medical Society. Dr. Wright is a native of Ruston, La., received his preliminary education at Abilene Christian College and his M.D. degree at Louisiana State University in 1979. He specializes in obstetrics and gynecology.

New Student Members

St. Louis University

B. Kelly Ence
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Katherine M. Roberts
Kren K. Shriver

University of Missouri-Columbia

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Mia Nagy
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Washington University

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NEWS From the Medical Schools

ST. LOUIS UNIVERSITY

"Transplantation and Organ Donation," a free continuing education program designed to educate area physicians of the current success of organ transplantation and of the urgent need for transplantable organs and tissues, was held on April 12 at the Medical Center's Learning Resources Center.

The symposium was sponsored by the Department of Surgery in cooperation with the St. Louis Regional Transplant Association and St. Louis University School of Medicine's Department of Continuing Education. Topics covered were heart, pancreas, renal, bone and cornea transplantation as well as organ procurement in the St. Louis region.

Topics and their presenters were "Cardiac Transplantation" by *John Codd*, M.D., professor of surgery and director of transplant surgery; "Pancreas and Renal Transplantation" by *Paul Garvin*, M.D., associate professor of surgery; "Cornea Transplantation" by *Lawrence Hirst*, M.D., associate professor of ophthalmology; and "Bone Transplantation" by *Michael McGuire*, M.D., assistant professor of orthopedic surgery.

Francis A. Zacharewicz, M.D., assistant dean for continuing medical education, was co-chairman of the Eleventh Annual Diabetes Symposium, "Current Topics in Diabetes for the Practicing Physician," held in St. Louis.

Frank H. Gafford, M.D., assistant clinical professor of internal medicine, was chairman of a session on intensive care and acute monitoring at a program sponsored by the Institute for Health Policy Analysis of Georgetown University Medical Center. The program was titled "International Conference on the Reuse of Disposable Medical Devices."

Thomas Ischinger, M.D., associate professor of internal medicine, participated in the presentation of two papers at the American Heart Association annual meeting. The papers were "Reproducibility and Localization of Cardiac Pain with Balloon Inflation During Coronary Angioplasty" and "Coronary Dissection and Total Coronary Occlusion with Percutaneous Transluminal Coronary Angioplasty: Significance of Initial Angiographic Morphology of Coronary Stenoses."

UNIVERSITY OF MISSOURI-COLUMBIA

The University of Missouri-Columbia (UMC) School of Medicine recognized the following Missouri students at the 20th annual Student Research Day and Honors and Awards Convocation in April:

Craig Mohler, Jefferson City, a second-year student, received the Boone County Medical Society Auxiliary Scholarship.

David Bliss, Independence, and *Barbara Page*, Kansas City (both third-year students), received the Russell D. Shelden Award for Excellence in Anesthesiology.

Luc Nguyen, Kansas City, was awarded for Outstanding Scholastic Achievement in Anatomy for the 1982-1983 academic year. Mr. Nguyen is a second-year student.

Receiving the Medical Biochemistry Award were *Mark Stephens Box*, Parkville; *Don Curtis Coonce*, Kansas City; and *Ricardo Rao*, St. Louis. All are first-year students.

Craig Mohler, Jefferson City, and *David M. Steele*, St. Louis, were given the Microbiology Book Award. They are second-year students.

Thomas Carlisle, Columbia, a second-year student, received the Physiology Award.

Alan Jay Bank, St. Louis, a third-year student, received the Pharmacology Award.

The Neuroscience I Award went to *Myron Maes*, a second-year student, and the Neuroscience II Awards went to *David Bliss* of Independence, *Mary Colette Schmidt* of Florissant, and *Mark Snell* of Columbia. All are third-year students.

Presenting the Alpha Omega Alpha invited lecture at the honors convocation was *Dr. Martin Alpert*, assistant professor of medicine.

The Alpha Omega Alpha faculty electee was *Dr. Ted Groshong*, associate professor of child health.

Dr. Willis K. Paull, professor of anatomy, has been appointed interim chairman of the Department of Anatomy.

Dr. Kenneth K. Keown, professor of anesthesiology, retired in December, 1983, after 27 years with the School of Medicine.

Dr. Dimitris A. Daskalopoulos recently joined the Department of Child Health as an assistant professor of pediatric cardiology. He formerly was a postgraduate research fellow in physiology at the Mayo Clinic in Rochester, Minn.

Dr. Jack M. Colwill, professor and chairman of the Department of Family and Community Medicine, has been appointed to the Commission on Governmental and Legislative Affairs of the American Academy of Family Physicians.

Dr. E. Lee Forker, professor and chief of the Division of Gastroenterology and Liver Disease in the Department of Medicine, presented a paper on "Hepatocyte Mediated Dissociation of Albumin Bound Organic Anions: Does It Happen and Does It Matter" at the Eighth International Bile Acids Symposium in Cortina d'Empezzo, Italy. Dr. Forker was awarded $110,061 by the National Institutes of Health to continue his research on "Mechanism in Bile Formation." This is the fifth year of an eight-year grant.

Drs. Mark A. McIntosh and *Kim S. Wise,* assistant professors of microbiology, have received $35,000 from the Missouri Research Assistance Act for a study of "Immunochemical Identification and Molecular Cloning of Mycoplasm Hyopneumoniae Antigens."

Dr. Jeanette Akhter, assistant professor of obstetrics and gynecology, was awarded a $10,800 grant by the state of Missouri for an adolescent pregnancy and parenting program. The program will provide pregnant adolescents with medical services, education, social services and a general support system.

Dr. Robert P. Burns, the Roy E. Mason Distinguished Professor and chairman of the Department of Ophthalmology, has been appointed an emeritus director of the American Board of Ophthalmology. Dr. Burns has served 12 years as a board director and consultant.

Dr. Gwilym S. Lodwick, founder of the Department of Radiology and past chairman, has been named professor emertius.

Dr. Donald Silver, professor and chairman of the Department of Surgery, was program chairman for the Central Surgical Association meeting in Pittsburgh.

WASHINGTON UNIVERSITY

Three faculty members at the School of Medicine will conduct research for the next seven years with funding of nearly $2,500,000 from Javits Neuroscience Investigator Awards.

Recipients are *Barbara A. Bohne*, Ph.D., associate professor of otolaryngology; *Gerald D. Fischbach*, M.D., professor and head of the Department of Anatomy and Neurobiology; and *Dale Purves*, M.D., professor of physiology and biophysics. The U. S. Congress gives the awards in honor of *Sen. Jacob K. Javits* of New York on recommendation of the National Advisory Neurological and Communicative Disorders and Stroke Council of the National Institutes of Health.

The awards are for investigators who have submitted regular research grant applications for competitive review during the 1984 fiscal year and who have made substantial contributions in some field of neurological or communicative sciences. The grants provide a seven-year commitment of support to the researchers who receive them.

Dr. Bohne will study the effects of noise on the inner ear in an effort to identify early damage before hearing problems become too severe.

Dr. Fischbach's research involves the development of embryonic neurons and muscle cells in tissue culture and the formation of functional connections between them. He hopes to learn how to prevent the cells from dying and how to promote their viability. Ultimately, this work could improve treatment for chronic degenerative disease of the nervous system.

Dr. Purves will examine how the nervous system changes over time by following the formation and maintenance of connections among nerve cells in mammals. The point of his work is to understand cellular mechanisms that allow the human nervous system to store information gained from experience.

Emil R. Unanue, M.D., has been named the new head of the Department of Pathology at the School of Medicine. His appointment, effective Jan. 1, 1985, was announced by *William H. Danforth,* M.D., chancellor of Washington University. Dr. Unanue succeeds *Paul E. Lacy*, M.D., Ph.D., Edward Mallinckrodt Professor and head of the Department of Pathology.

After more than 20 years as department head, Dr. Lacy has stepped down from the position to concentrate on his research full time. A member of the National Academy of Sciences, he is recognized worldwide for his scientific achievements and, in particular, for his success in controlling diabetes by transplanting clusters of insulin-producing pancreas cells. His work has significantly advanced immunology, organ transplantation, and the continuing search for better diabetes treatments.

Dr. Unanue currently is on the faculty at Harvard Medical School, where for the last ten years he has been Mallinckrodt Professor of Immunopathology in the Department of Pathology. As head of the Pathology Department at Washington University, he will serve as Edward Mallinckrodt Professor of Pathology and as pathologist-in-chief at Barnes, Jewish and Children's hospitals, sponsoring institutions of the Washington University Medical Center.

Dr. Unanue joined the faculty of Harvard Medical School in 1970 as an assistant professor of pathology, becoming an associate professor in 1972 and the Mallinckrodt Professor of Immunopathology in 1974. Since 1977, he has served as a consultant in pathology to Brigham and Women's Hospital in Boston.

UNIVERSITY OF MISSOURI-KANSAS CITY

Two special recognition awards were presented during the School of Medicine's commencement ceremony on May 31. *Homer C. Wadsworth*, former director of the Cleveland Foundation and this year's Carl Migliazzo Lecturer, was presented with a special Chancellor's Citation. Mr. Wadsworth, who served as an advisor and consultant in the early years of the Medical School, also was a close personal friend of *Carl Migliazzo*. "It is most appropriate that Mr. Wadsworth give the Carl Migliazzo Lecture," *Dean Harry S. Jonas*, M.D., said. "The special citation from the Chancellor is not only appropriate, but well-deserved."

Susan S. Jenkins, who was instrumental in helping design the concept of Truman Medical Center-West and who has been a consistently strong supporter of the School of Medicine, was presented with a Special Citation for Distinguished Service to the UMKC School of Medicine. "Ms. Jenkins is a very special person in the UMKC Medical School family," Dean Jonas said. "It is a privilege to recognize her service."

Effective on March 15, *Marilyn McGuyre* was named director of the School's Office of Medical Education (OME). Ms. McGuyre's promotion was one of several recent administrative changes in the reorganization of the dean's office. Ms. McGuyre has been associated with UMKC since 1970, first with the Office of the Provost for Health Sciences and later with the Health Resources Institute. She joined the OME staff in 1973 and has held the position of associate director since 1978.

Dean Harry S. Jonas, M.D., recently served as a member of a regional panel that interviewed and screened applicants for White House Fellowships. This fellowship program selects gifted and motivated individuals from all fields to spend a year in Washington where they can gain firsthand experience in the process of governing the nation and who can utilize this knowledge in their future. The regional panel, of which Dean Jonas was a member, was chaired by former Secretary of Agriculture *Clifford Harden*. Of the 12 applicants its members interviewed, two were recommended for interviews at the national level.

Michelle Kilo, Year VI, St. Louis, was awarded one of 24 MAP-Reader's Digest International Fellowships for an eight-week externship in Zambia. She will work in some of the country's rural mission hospitals and clinics from July through September. The fellowship program awards travel grants toward externships in the Third World, thus enabling students to take part in the daily responsibilities as members of a hospital or community health-care team where they can gain firsthand knowledge of health problems in populations that have little access to adequate medical care.

Five of UMKC's 20 students who were selected as Vice Chancellor for Student Affairs Honor Recipients for 1983-1984 are from the School of Medicine. They are *Elliot J. Cohn*, Year VI, St. Louis; *Barry A. Gubin*, Year VI, Caruthersville; *Mary V. Hastings*, Year VI, Creve Coeur; *Timothy W. Martin*, Year VI, O'Fallon; and *John A. Whitfield, Jr.*, Year VI, St. Louis.

Dean Harry S. Jonas, M.D., recently spoke on the present and future of family practice in Missouri at a Family Practice Symposium presented by the Springfield Academy of Family Physicians at St. John's Hospital in Springfield (Mo.). He discussed underserved areas and projected the needs for family practice physicians and the future direction the specialty should take.

During a May 2-4 visit to the School of Medicine, *Nicholas R. Anthonisen*, M.D., Ph.D., a University of Kansas City Trustees' visiting lecturer, gave two presentations: one on "Vagal Airway Receptors and Control of Breathing" and one on "Treatment of COPD." Dr. Anthonisen is professor of medicine at the University of Manitoba and head of the Respiratory Division of the Health Sciences Centre in Winnipeg, Manitoba.

A ceremony for the dedication of the *Thomas A. Mahvi Memorial Plaza* was held on May 14. Dr. Mahvi, a former professor of microbiology at the School of Medicine, died in the Hyatt Regency skywalk disaster in July, 1981. The plaza is located on the east side of the front of the Medical School.

MSMA Members Receive Physician's Recognition Award

Seventy-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of April, 1984.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

John Aldridge, Kansas City
George D. Amromin, Columbia
Don L. Andrus, Poplar Bluff
Samuel E. Aparicio-Acosta, St. Joseph
Ali A. Arbab, Kansas City
Keith W. Ashcraft, Kansas City
John D. Bauer, St. Louis
Thomas A. Beller, Kansas City
John F. Bowser, Kansas City
Robert S. Brown, Kansas City
Martin H. Christ, St. Joseph
Richard B. Chusak, St. Louis
Charles A. Clough, Kansas City
Larry D. Cordell, Kansas City
John P. Crotty, St. Louis
Donna K. C. Daily, Kansas City
Ervin H. Dorsch, Independence
Robert K. Dorton, St. Louis
Linda A. Fisher, St. Louis
Dominic S. Francisco, St. Louis
Alice M. Garrison, Pleasant Hill
Kenneth L. Goetz, Kansas City
James H. Habermann, Joplin
Frederick H. Hartwig, Kansas City
Marvin T. Haw, Columbia
Larry V. Hays, Kansas City
Thomas R. Hunt, Kansas City
Jose Jimenez, St. Joseph
Warford B. Johnson, Springfield
Keith D. Jones, Warrensburg
Philip G. Kaul, Kansas City
Charles R. Kelly, Kansas City
Robert C. Lander, St. Louis
Harry B. Levey, Kansas City
Kun T. Liao, St. Louis
Loretta S. Loftus, Kansas City
Ralph E. MacNaughton, Kansas City
Diane M. Magrane, St. Louis
Olin B. Maudlin, Cape Girardeau
Laureano G. Mayuga, Cabool
Charles W. Miller, St. Louis
Irene M. Minkoff, St. Peters
J. Scott Morrison, Kansas City
Richard L. Muchnick, St. Louis
Michael D. Nickell, Joplin
Alejandro C. Ojascastro, St. Louis
Gregory J. Renner, Columbia
James A. Roller, Columbia
Katerine A. Smith, Kansas City
William Stoneman, St. Louis
Garry M. Vickar, Florissant
Donald V. Youll, Kansas City
James E. Young, Kansas City

NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Aug. 4-5	Soft Tissue Surgery Workshop
Oct. 15-17	Advances in Scar Revision and Camouflage
Nov. 9-11	11th Annual Symposium: Anesthesia and the Geriatric Patient (Marriott Pavilion Hotel)

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

July 21-22	Swallowing Disorders (Marriott's Pavilion Hotel, St. Louis)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

June 28-29	Update in Gynecology (Alameda Plaza Hotel)
July 27-29	Internal Medicine Update — 1984 (Tan-Tar-A Resort, Osage Beach)
Sept. 21-22	The Long Weekend (Alameda Plaza Hotel)
Nov. 8-10	Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 6-8	The Heart 1984 (Alameda Plaza Hotel)

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
***Contact:* Richard C. Barry, M.D.**

June 13-15	Symposium: Identification and Practical Approach to Evaluation and Management of Pediatric Emergencies (Tan-Tar-A Resort, Lake of the Ozarks)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

June 20	Daniel C. Darrow Education Day (Pediatrics)
July 26-27	Advanced Trauma Life Support
Aug. 2-5	Third Annual KU Summer Medical Symposium Medicine for the Practicing Physician (Broadmoore Hotel, Colorado Springs)
Sept. 6-7	Advanced Trauma Life Support
Sept.6-7	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Sept. 14	Basic and Clinical Electroretinography (ERG). Electrooculography (EOG) and Visual Evoked Response Recording
Sept. 18	Leukemia Society Annual Symposium (Alameda Plaza Hotel, Kansas City, Mo.)
Sept. 27-28	Rehabilitation and Continuing Care in Cancer (Doubletree Hotel, Overland Park, Kan.)
Oct. 5	Research Day
Oct. 18-19	Advanced Trauma Life Support
Oct. 18-19	39th Annual Internal Medicine Symposium
Oct. 23-24	Medicine and Religion: The Family
Nov. 2	Annual Diabetes Symposium
Nov. 29-30	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Dec. 13-14	Advanced Trauma Life Support

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In Memoriam

George F. Wood, M.D., 1700 Plaza Dr., Fulton 65251; graduate of St. Louis University, 1937; member of Callaway County Medical Society; aged 81; died Feb. 17, 1984.

George E. Sanders, M.D., 617-A Willow Dr., Lee's Summit 64063; graduate of the University of Kansas, 1942; member of Clay-Platte County Medical Society; aged 70; died Feb. 28, 1984.

Remedios M. Lorenzo, M.D., 509 W. 119th Terr., Kansas City 64145; graduate of the University of Santo Tomas, 1964; member of Jackson County Medical Society; aged 42; died March 31, 1984.

Edwin F. Vitt, M.D., 6 Deacon Dr., St. Louis 63131; graduate of University of Cincinnati, 1927; member of St. Louis Metropolitan Medical Society; aged 85; died April 5, 1984.

Donald E. Beckman, M.D., 5752 Bluff Rd., St. Louis 63129; graduate of St. Louis University, 1945; member of St. Louis Metropolitan Medical Society; aged 58; died April 9, 1984.

Stanley Reitman, M.D., 738 Fairfield Lake Dr., Chesterfield 63017; graduate of Washington University, 1953; member of St. Louis Metropolitan Medical Society; aged 59; died April 29, 1984.

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File Numbers — Advertisers using file numbers forbid disclosure of their identity. Written inquiries are forwarded to such advertisers. To assure prompt delivery when replying to an advertisement with a Journal file number, address letters as follows: File (insert number), c/o Missouri State Medical Association, P.O. Box 1028, Jefferson City, Mo. 65102.

All advertisements are subject to approval by the Editorial Board prior to acceptance.

UNIVERSITY HEALTH SERVICE — Southwest Missouri State University seeking replacement physician for retiring GYN-FP (or FP with strong background in GYN). Excellent clinic facility. 15,000+ students and growing. Excellent fringe benefits, outdoor recreation and time to enjoy. Salary competitive. Position open Sept. 1, 1984. Write to R. L. Bartley, M.D., Director, Taylor Health Center, Southwest Missouri State University, Springfield, MO 65804-0094.

OFFICE AVAILABLE IN MISSOURI OZARKS — For FP/MD. 2,400 square feet, 12-room office overlooking Table Rock Lake in Kimberling City. X-ray and telephone system installed. Recreation/retirement community with nursing home needs good FP. No hospital work required. David M. Baker, M.D., Rt. 2, Box 165R, Ozark, MO 65721. (417) 485-6300.

ST. LOUIS UNIVERSITY MEDICAL CENTER — Is seeking primary care physicians for its Doctors House Call program. Excellent remuneration and malpractice coverage provided. Please contact Program Director, Doctors House Calls, St. Louis University Hospitals, 1325 South Grand Blvd., St. Louis, MO 63104. (314) 771-7600, Ext. 2578. Equal Opportunity Employer.

MISSOURI — Emergency Room Positions, St. Louis University School of Medicine, Department of Pediatrics. Seeking two pediatricians to join six full-time university ER faculty physicians. Qualifications: Board certified or eligible pediatrician. Salary and rank negotiable. Send curriculum vitae to Ursula Rolfe, M.D., Cardinal Glennon Memorial Hospital for Children, 1465 S. Grand Blvd., St. Louis, MO 63104. (314) 577-5643. An EEO/Handicapped Employer, M/F, A-A.

NEED — For internist, pediatrician, psychiatrist and family physician. Outskirts of St. Louis. Send complete resume to CA-File 481, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

ANESTHESIOLOGIST — 35 BE, Fellow of ACA, 6 years practice in all types of anesthesia including regional and epidural blocks. Interested in practice opportunities in Missouri, preferably fee-for-service solo or small-group practice. Available on short notice. Please reply to RR #7, Box 66, Ottumwa, Iowa 52501.

EMERGENCY MEDICINE — Part-time and full-time positions available throughout Missouri. Earn a competitive income while enjoying the many challenges emergency medicine offers. Flexible scheduling and professional liability insurance provided. Respond in confidence to Debbie Kotaki, Spectrum Emergency Care, Inc., 999 Executive Parkway, P.O. Box 27352, St. Louis, MO 63141; (314) 878-2280 collect.

350-BED PROGRESSIVE HOSPITAL — Sixty miles south of St. Louis needs staff psychiatrists and general physician for inpatient units. Qualifications: Board eligible or board certified with Missouri license. Salary: Physician: $3,849-$4,199/month. Psychiatrists: $55,284, plus $8,000-$10,000 for on-call (2-3 times/month). Malpractice, Blue Cross, three weeks vacation. Opportunity for private practice exists, as there are no psychiatrists within 60 mile radius. Write or call Dr. Bassett, Chief of Medical Staff, Farmington State Hospital, Farmington, MO 63640. Phone: (314) 756-6792, Ext. 347.

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in Brief

A summary of AMA, medical & health news

American Medical Association / 535 North Dearborn Street / Chicago, Illinois 60610 / Phone (312) 527-1500 / TWX 910-221-0300

COMPUTERIZED INFORMATION services have been developed by the AMA in conjunction with the Centers for Disease Control and the Food and Drug Administration. The CDC uses MED/MAIL, the electronic messaging service of the GTE Telenet Medical *Information* Network to transmit alerts from its *Morbidity and Mortality Weekly Report* and to list training courses it offers to physicians and other health professionals. A third service, "CDC Info Update," monitors recent developments in the treatment of diseases. The AMA and the FDA have developed an electronic version of Form 1639, which physicians use to report adverse drug reactions experienced by their patients.

THE FEDERAL TRADE Commission said it is closing an investigation of the AMA operating criteria for freestanding emergency centers. The guidelines were developed by the Commission on Emergency Medical Services. The American Association of Freestanding Emergency Centers had petitioned the FTC to initiate the investigation, charging that the AMA was restraining the ability of such centers to compete with hospital emergency rooms. The FTC found no basis to file a complaint against the AMA. It asked both the AMA and the AAFEC for assistance in a study of the centers' use of such terms as "emergency" and "urgent care."

MEDICARE ASSIGNMENT directories now being issued by the Health Care Financing Administration have a number of problems that should be reviewed and corrected in future editions, the AMA said in a letter to the HCFA administrator. The AMA recommended that the directory clearly state that assignment decisions are individual ones made between physicians and patients, and that both parties still need to discuss whether assignment will be accepted on any individual claim. "Failure to place such a caveat within the listing will only create greater confusion down the road if beneficiaries assume that a physician with a high percentage of claims accepted on an assigned basis will automatically accept their claim on such a basis," said the AMA.

LIFETIME CABLE Network will broadcast a TV series to be coproduced by the AMA. The series, titled "Medicine Today," will contain clinical, social and economic news drawn from AMA publications. The new venture, scheduled to start this fall, will supplement the previously announced cablecast of the AMA Video Clinic series. Lifetime is devoting 20 hours a week for medical programming targeted to physicians. For more information, contact Robert L. Bonin, AMA Headquarters, or phone 312-645-4596.

GROUND WAS BROKEN for EcuMed, a $2 billion medical education complex in Fort Lauderdale, Fla. The purpose of the international center, which will open its doors in 1987, is to keep physicians and other health professionals informed on clinical developments, products and technology. EcuMed is expected to attract 600,000 visitors a year — 120,000 from outside the U.S. It will have meeting facilities for groups up to 2,000.

NO-COST OR LOW-COST care was provided by 76.8% of physicians in 1982, according to the Socioeconomic Monitoring System of the AMA Center for Health Policy Research. Providing free or reduced-fee care resulted in a 9.1% average reduction of potential revenues. Another form of uncompensated care is represented by unpaid bills. On average, 21.2% of physicians' total practice billings in 1982 were at least 30 days past due, excluding late payments from third-party payors. In addition, 6.3% of total practice billings in 1982 never were collected.

PHYSICIANS' INCOME decline 3.0% in the six-month period ending in September, 1983, compared with the same period in 1982. The decline was the first reduction in average quarterly net income recorded by the Socioeconomic Monitoring System since the program began in 1981. All major specialty groups experienced a decrease, although surgical specialties reported only a minimal loss. The AMA cautioned that the survey program had not accumulated enough evidence to determine whether the decline was the beginning of a trend or merely a transitory phenomenon.

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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. 8. Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

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Missouri Medicine

Vol. 81, No. 7 (ISSN 0026-6620) July, 1984

Special Report

126th Annual Convention

Scientific Section

Missouri State Medical Association

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PROGRESS NOTES
missouri state medical association
JULY 1984

Contract awarded

Dr. T.J. Cooper of St. Louis, president of the Missouri Patient Care Review Foundation, returned from Baltimore, Maryland, on June 27 and announced that he had successfully negotiated a contract with the Health Care Financing Administration.

The Foundation now has an agreement to be the PRO contractor for the state of Missouri. The Foundation is conjointly sponsored by the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons. Under the terms of the agreement, it will become operational on July 15, 1984. Complete details will be published as soon as they are available.

Medicaid change made

A new system for processing prior authorization requests on Medicaid claims should speed the processing of such claims, according to the Missouri Department of Social Services and General American Consultec.

Starting July 1, 1984, claim forms are no longer to be submitted with the prior authorization request form. Instead, the prior authorization is to be submitted first, before services are performed. The form will be returned to the physician, marked "approved" or "denied."

After the service is performed, the claim form may then be submitted, *without* the prior authorization form attached. The system will automatically match the prior authorization with the claim.

The new procedures will eliminate suspension of the claims that are awaiting verification by automatically determining the prior authorization status when the claims are received. Therefore, the time required to process claims should be shorter.

Council meeting

Council authorizes negotiation of stock purchase proposals

At its June 3, 1984, meeting, the MSMA Council adopted a resolution authorizing the review of offers to buy MSMA-owned MOMEDICO stock.

The resolution allows the Executive Committee to review offers and negotiate with prospective buyers of the stock. Any definitive agreement relative to the sale of the stock will be subject to the approval of the Council and final approval by the House of Delegates.

In other action, the Council approved the Clarion Hotel in St. Louis as the site of the 1986 annual meeting (April 2-6); approved submitting a bid to purchase the property at 115 Madison Street, Jefferson City, adjacent to MSMA headquarters; and approved a request from the Committee on the Impaired Physician for $2,500 to partially fund a joint project to educate health care professionals about impaired physicians.

Councilor Advisors appointed to serve on various commissions were as follows:

Commission on Continuing Education and Health Manpower — Dr. Alan Braun; Commission on Public Affairs — Dr. Dorothy Reister; Commission on Medical-Legal Affairs — Dr. David Wilkinson; Commission on Medical Economics, Third Party Medicine and Governmental Relations — Dr. Francis M. Corry; Commission on Interspecialty Medicine — Dr. Robert V. Tompson.

The Council heard a report on a "Talkshow" radio program series being developed by MISSOURINET, a radio network based in Jefferson City. The package would include six live shows per year, to which listeners can call in questions, plus a series of radio commercials and magazine advertisements. The program package will cost approximately $12,500. The Council tentatively approved the package, subject to the review and recommendations of the Commission on Public Affairs, which meets in July.

In response to a request from the Commission on Interspecialty Medicine, MSMA now has a package of management services available to specialty organizations. The services now are being provided to the Missouri State Allergy Association, the Missouri State Orthopaedic Association, the Missouri Society of Anesthesiologists, the Missouri Psychiatric Association, and the Missouri State Surgical Society.

Dr. Glenn Eberhart reported that the University of Missouri-Kansas City recently graduated 80 medical students.

Dr. William Allen, reporting from the University of Missouri-Columbia, said the school graduated 107 medical students in May.

Dr. John Martin, reporting from the MMPAC, said Missouri is currently tied with Kentucky for fifth place in number of PAC members per potential in each state.

Dr. Ronald Youmans presented a report from the Ad Hoc Committee to Study American Physicians Life Proposal (APL).

APL provides individual and group life insurance coverage through state medical associations and/or medical professional liability insurance companies, which may then benefit from an equity interest in APL.

The company offers physicians and other individuals a number of

(continued on page 2)

Dinolfo joins MSMA staff

Kay Dinolfo has been named Editorial Assistant in the Communications Department of the MSMA. Her duties will include public and media relations, as well as newsletter and brochure production for the association.

Ms. Dinolfo attended high school in Jefferson City and received her undergraduate degree in chemistry from Central Methodist College, Fayette, Mo. Her graduate work was done in journalism at the University of Missouri-Columbia, and she had previously been with the Jefferson City News Tribune as women's editor.

She and her husband, Steve, and their son are living in Jefferson City.

Appeals court rules against Richardson

The Eastern District of the Missouri Court of Appeals held in *Richardson v. St. John's Mercy Hospital* that the circuit court did not have jurisdiction to hear Dr. William R. Richardson's case, nor could it enjoin the private hospital from restricting his surgical privileges.

Dr. Richardson, Union, had been required by the hospital to have preoperative consultation and intraoperative assistance on all major abdominal cases. He sought and obtained a court injunction preventing St. John's from implementing this requirement.

The court noted in its decision that the actions of a private hospital do not constitute "state action," and therefore are not reviewable by state and federal courts. The case indicates that possible exclusion or restriction of a physician or surgeon from practicing in a private hospital is a discretionary decision of the institition's administration.

The Missouri State Medical Association received permission to intervene in the case, and attorneys for the association filed a brief in support of Dr. Richardson.

★Council meeting

(continued from page 1)

insurance products, including life insurance, disability insurance, qualified pension plans, and annuities.

The Council recommended that MSMA ask Missouri State Medical Insurance, Inc., to consider purchasing APL stock, as outlined in the proposal, and begin to develop insurance plans for MSMA members. MSMI will report back to the Council prior to implementation of the program.

In final action on the proposal, the Council agreed to explore alternatives to buying stock in APL, or other insurance companies, in order to provide the best possible insurance to MSMA members with the best benefits to the association.

Dr. T.J. Cooper reported that under federal requirements, a letter had been sent to all physicians in the state asking them to support the Missouri Patient Care Review Foundation, or to send a letter resigning from the Foundation if they chose not to support it. To date, Dr. Cooper said, 20 letters of resignation have been received.

The MSMA's proposal has been submitted to the Health Care Financing Administration, and 14 items have been singled out for clarification in the proposal.

The five PSRO directors are meeting to address these issues, which will then be reviewed by the Foundation Board of Directors before the items are resubmitted to the Department of Health and Human Services.

Medical malpractice numbers rise sharply in 1982 report

The Missouri Division of Insurance recently released a report on closed medical malpractice claims in Missouri for 1982. The report* reveals that claim frequency (number of claims) and severity (indemnity amount paid) increased significantly in that year, not only for physician and hospital medical malpractice claims, but for all claims in the state.

In 1982 there were 1,242 total claims reported in Missouri, which is a 79 percent increase over the 695 claims reported in 1979. Of the 1,242 claims, 543 related to physician medical malpractice. The amount paid on physician medical malpractice indemnity totaled $10,939,232 in 1982, which is startling when it is realized that the total indemnity paid out on *all* claims that year was $18,410,168! When physician and hospital medical malpractice indemnity paid are added together, the total is $17,487,376 for 1982.

Of the 543 physician medical malpractice claims, 33 claims had an indemnity payment of $100,000-$999,999. These 33 claims totaled $6,870,477 or more than half of the $10,939,232 total paid out.

The chart below illustrates the number of claims reported and the average indemnity paid from 1980-1982. These figures are compared to the number of claims that were actually paid on (number of claims reported — number of claims on which no indemnity was paid), to give the average indemnity on *paid* claims from 1980-1982.

This 1982 report reflects the spiraling number of claims and rising indemnity amounts against physicians in this state. The professional liability carriers in Missouri continue to experience loss ratios in the 100-percent-plus brackets, and will continue to do so if present trends hold true.

	1982	1981	1980
Number of claims reported	543	345	332
Average indemnity	$20,145	$19,429	$15,590
Number of claims reported and paid	244	178	162
Average indemnity paid	$44,833	$37,658	$31,952

**Medical Malpractice in Missouri - 1982,* prepared by the Statistical Section, Missouri Division of Insurance.

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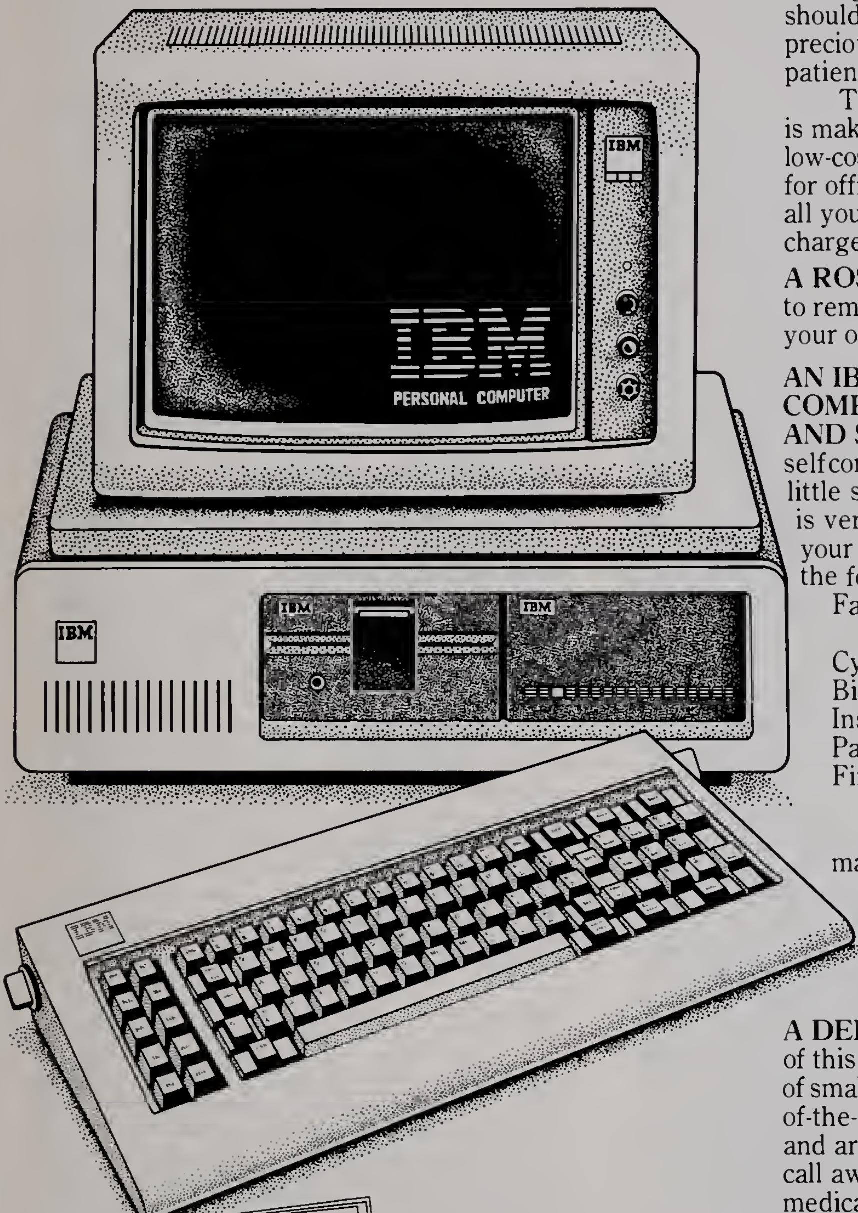

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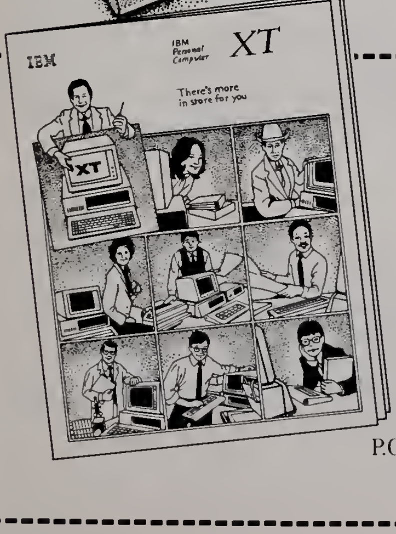

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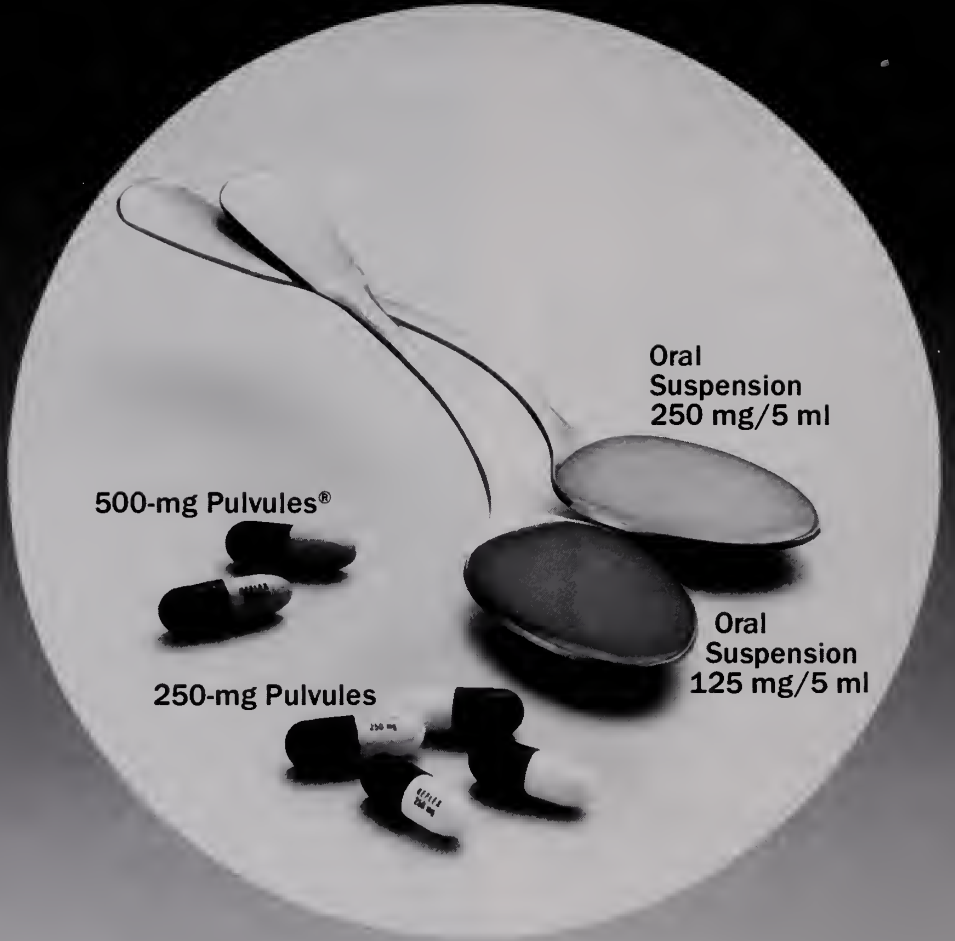
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Editor's Corner

OF WORDS AND WORDINESS

> *"Wear your learning like your watch, in a private pocket; and do pull it out and strike it, merely to show that you have one."* — CHESTERFIELD

Doctors are constantly being blamed by the media, the government and the public in general for almost any problem remotely in the health field. Most of the criticism is overstated and overdone to the point of physician paranoia. One criticism that may have some basis in merit, however, concerns how physicians communicate with their patients. Is there a dialogue of equals when a medical problem is discussed between doctor and patient, or do the $50 words flow in an oily stream from the Physician Superior to his client?

It's hard not to use the big words — the latest Dorland's Medical Dictionary has almost 1,500 pages of them — words which often condense a phrase or concept into one long collection of syllables. They're fine and necessary in scientific decision, but they do little to help the average citizen understand medical problems. A well formulated and easily understood explanation of a disease and its treatment possibilities, on the other hand, is usually a highly rewarding experience for the patient — that's what he's paying for. At a recent service club meeting, we heard an internist explain up-to-date cardiology and treatment modalities in such a succinct and understandable way that the program was considered by the lay audience as one of their best of the year.

Sitting down and talking to patients can be time consuming. This should, of course, be phrased talking *with* the patient. It is estimated that in such dialogues the doctor speaks an average of 60% of the time and the patient, 40%. The use of instructive video tapes for the patients to view in the office is a partial help in passing on medical information but suffers from being somewhat impersonal. The knowledge gap that needs to be crossed is becoming greater all the time. The general public gets precious little in the health field in school, while the typical MD has been poked full of eight to ten years of post-college education in some field of medicine. Greater breaches of understanding are developing among the various branches of medicine, so one can hardly blame the public for not understanding the difference between pityriasis and psoriasis, hamartoma and hematoma.

A "holier than thou" appearance by the physician is sometimes hard to avoid. Placing oneself behind a desk while talking with a patient is criticized as portraying such an attitude. Talking to a patient face to face in the hospital is difficult; sitting on the bed to do so is often handy, but may be a no-no to the nursing service.

Occasionally, the desire to communicate properly can backfire. Some time ago, in dealing with a citizen from back in the hills with a neuromuscular tension problem, we embarked on an explanation couched carefully in simple, monosyllabic words. After he had endured about five minutes of this, the patient interrupted and said "I believe I understand what you're trying to say, doctor. I have my Master's Degree in counselling." Guess we should have told him he had paroxysmal postsynaptic cleidohyoideal synkinesis.

JORDAN W. BURKEY, M.D.
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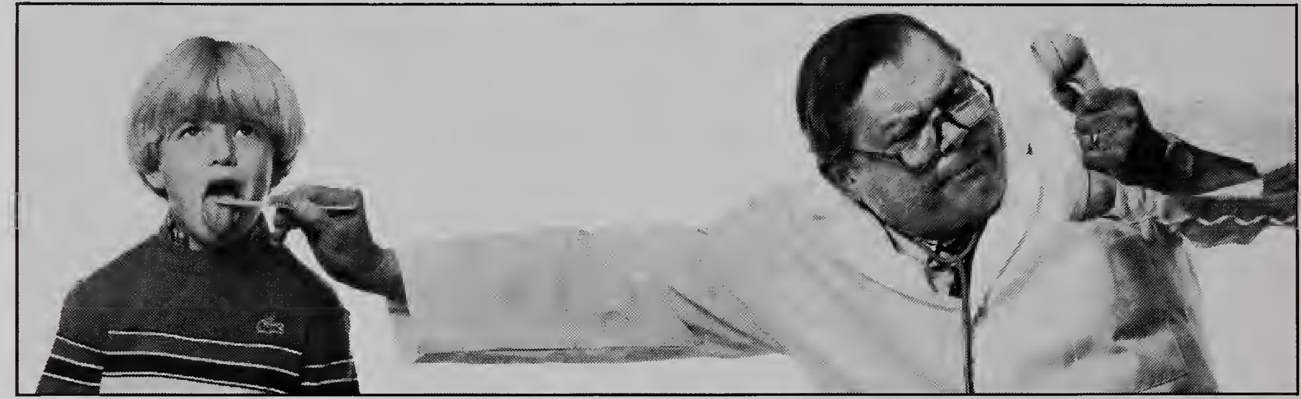

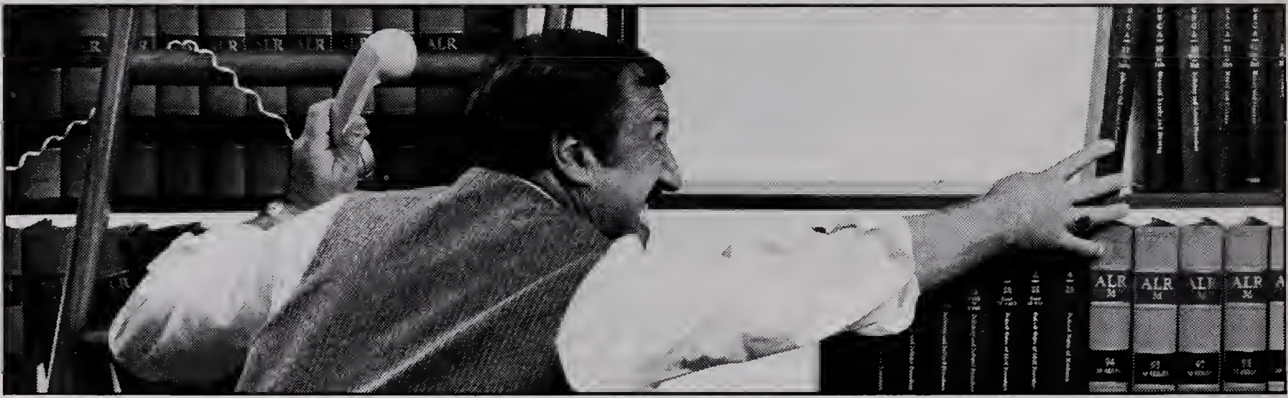

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ROBERT M. WOOLSEY, M.D., *St. Louis*

Restoration of Hand Function

ANY ATTEMPT to restore function to a disabled hand requires a determination of the specific normal movements lost as a result of injury and an analysis of how this loss affects function of the hand as a whole.

Twenty-five years ago, J. R. Napier presented an amazingly simple conception of hand function.[1] Napier stated "at first sight, it would seem that the prehensible activities of the hand are so extensive and varied that a simple analysis would not be feasible." On closer analysis, he noted that the apparent diversity actually consisted in the vast array of objects of all shapes and sizes that are handled in every day activities rather than in the number of hand movements required to manipulate them.

According to Napier, there are two fundamental hand positions: power grip and precision grip. In a power grip (Fig. 1), an object is held against the palm of the hand by the clamping action of the partially flexed fingers and thumb. In precision grip (Fig. 2), an object is pinched between the flexor aspect of the fingers and the opposing thumb.

Napier pointed out that thumb position differs fundamentally in the two grips. In power grip, the thumb is adducted at the metacarpophalangeal joint and the carpo-metacarpal joints whereas in precision grip, it is abducted at both of these joints. Finger position is less different in the two grips. However, the position of the hand on the forearm differs considerably. In power grip, the wrist is held in a neutral position between flexion and extension. In precision grip, the hand is markedly dorsiflexed.

Power grip and precision grip are static positions. The dynamic dimension of handling needs to be added. Power handling involves the arm and forearm musculature. For example, when using a hammer, the handle is held in power grip. The actual pounding movement, depending upon the force desired, involves flexion and extension movements of the wrist, elbow or shoulder. In precision handling, the object held in precision grip is either rotated clockwise or counter clockwise or, in a translational movement, is pushed away from or pulled towards the palm of the hand.[2] For example, in writing, the pencil is held between the tips of the thumb and index finger and rests on the middle finger. Actual writing consists of pulling the tip toward or pushing it away from the palm of the hand.

The hand is the functional unit of the upper extremity. Movements of the more proximal portions of the forearm, arm and shoulder only place

This article provides information for the temporary or permanent improvement of hand function by using a variety of simple orthotic devices. Although the actual prosthetic devices described have been available for many years, the author's goal is to explain them in terms of Napier's formulation of hand function to make their usefulness more understandable to physicians who might not have this experience in rehabilitation medicine.

Dr. Woolsey is Professor of Neurology, St. Louis University School of Medicine and Chief, Spinal Cord Injury Services, St. Louis Veterans Administration Medical Center.

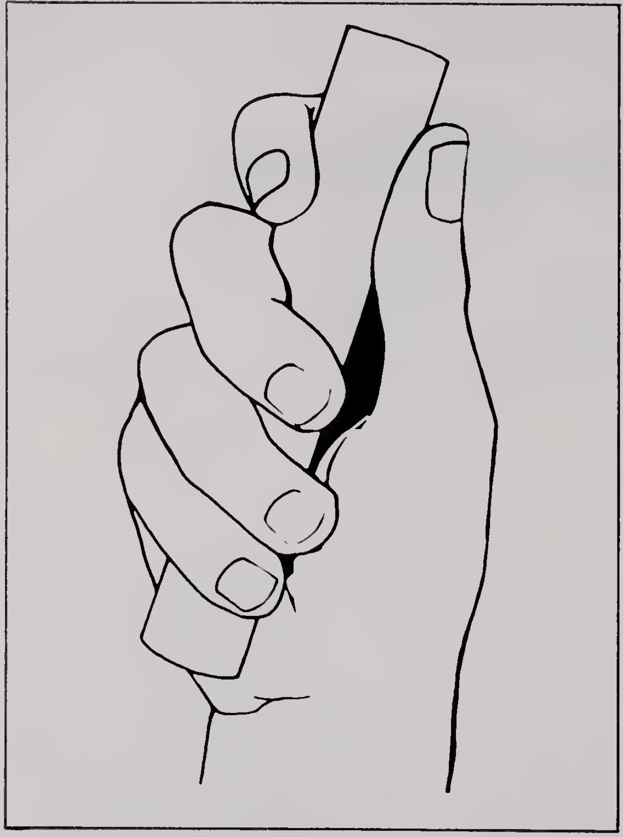

Fig. 1 Power Grip: Object is held against palm by clamping action of the partially flexed fingers and thumb.

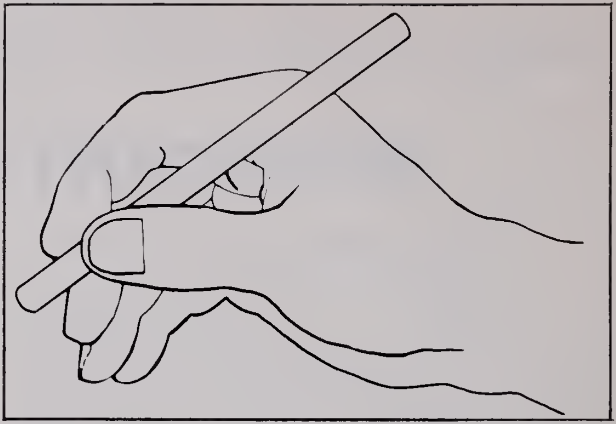

Fig. 2 Precision Grip: Object is pinched between flexor aspect of the fingers and thumb.

the hand in a position to work.

Powered by pronator and supranator muscles, the radius may orbit 180 degrees around the ulna to place the hand in a palm up or palm down position.

The elbow is a "hinge" joint powered primarily by the biceps and triceps muscles that bring the hand to or away from the trunk or face.

The shoulder is a "ball and socket" or "universal" joint.The shoulder girdle musculature provides the capacity for flexion, extension, abduction, adduction, external rotation and internal rotation, thus projecting the hand to virtually any point in space adjacent to the body.

Injury to upper extremity nerves or to the cervical spinal cord causes loss of one or more of the elementary components of power or precision grip or handling. Once the defect is properly identified, hand function can be partly restored by an appropriate orthoses (splint).

Loss of ability to abduct the thumb away from the palm of the hand has a devastating affect on precision grip since opposition with the fingers is impossible. This type of defect is seen in median nerve palsy and in injury to the T1 spinal segment. Proper positioning of the thumb can be restored using the short opponens splint. This splint (Fig. 3) consists of an opponens bar that prevents the thumb from swinging radially into the "ape hand" position and a C-bar that holds the thumb in an abducted position. A palmar bar supports the metacarpal arch.

Higher level injuries to the median nerve or destruction of the eighth cervical spinal cord segment results in loss of both the thumb abduction and the ability to flex the thumb and fingers. Both power grip and precision grip are lost under these circumstances. With the passage of time, the forearm finger flexor muscles shorten due to spasticity or contracture producing a state of tenodesis (tendon fixation). When this occurs, extension of the wrist causes traction on the flexor tendons of the fingers and thumb that mechanically pulls these digits together, restoring a weak variety of power grip and an imprecise type of precision grip (Fig. 4).

Paralysis of the forearm extensor muscles, usually the result of a radial nerve palsy, results in a wrist drop. Flexion of the wrist shortens the forearm finger flexor muscles about two inches less than their normal resting length. Contracting at this mechanical disadvantage, the muscles produce only weak finger flexion, severely weakening power grip. In normal precision grip, the wrist is dorsiflexed to point the opposed thumb and fingers forward. With wrist drop, they point downward, thus aborting the purpose of precision handling. This defect is easily rectified by a Volar cock-up wrist splint (Fig. 5). This splint extends from the distal palm crease over the wrist and approximately two thirds up the length of the forearm supporting the wrist in a position of 20 to 30 degrees of dorsiflexion. Fingers are again

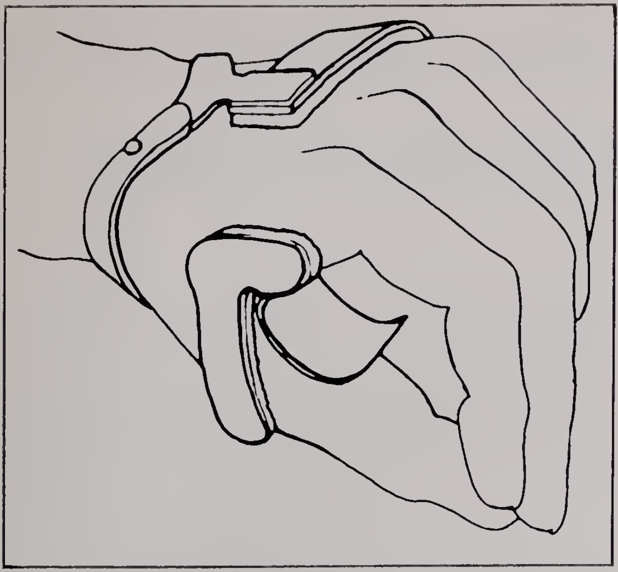

Fig. 3 Short opponens splint: "C" shaped bar holds thumb abducted to oppose fingers. Opponens bar prevents thumb from moving laterally.

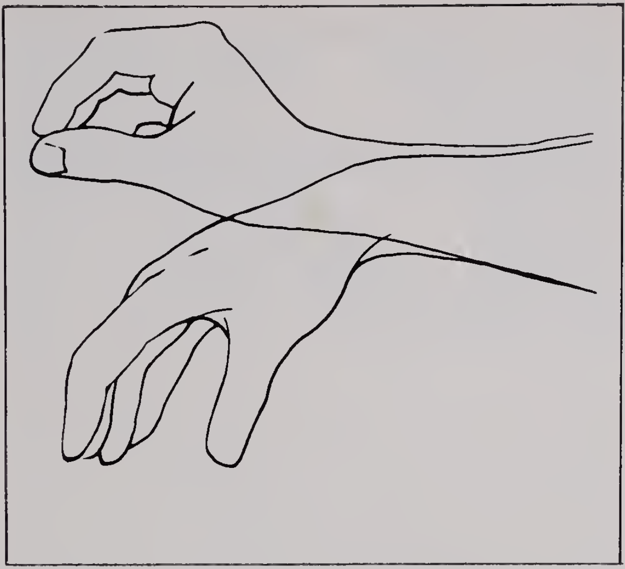

Fig. 4 "Natural" tenodesis effect: When wrist is dorsiflexed, fixed flexor tendons pull fingers and thumb together.

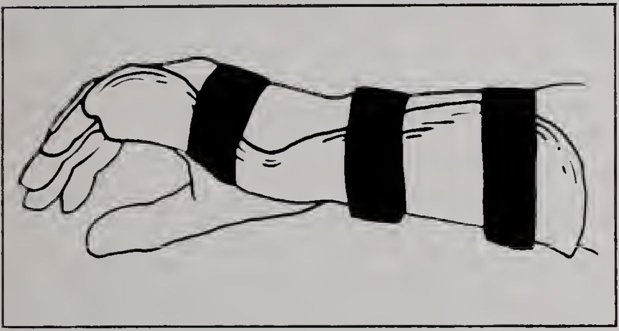

Fig. 5 Volar Cock-up wrist splint: Restores length to finger flexors and points fingers forward.

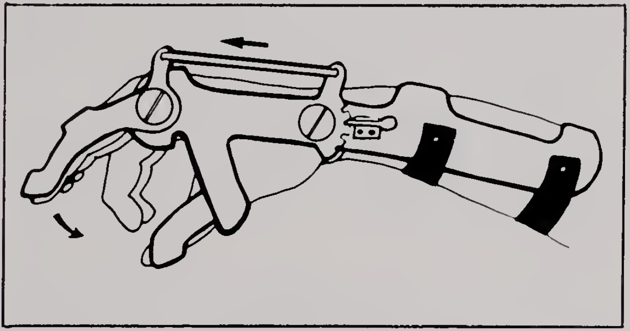

Fig. 6 "Tenodesis" Splint: Wrist dorsiflexion pushes power transfer bar forward flexing fingers against fixed thumb.

pointed forward and the tendons of the forearm finger flexors are restored to appropriate length.

Patients with destruction of their C7 spinal segment lose wrist extensors except for the extensor carpi radialis that is innervated by the C6 segment. Thus, weak wrist extension is still possible. Such patients also have lost finger flexion and thumb abduction. Partial restoration of hand function can be accomplished with a wrist driven finger flexor orthosis. Though sometimes called a "tenodesis splint," the device is purely mechanical and no tenodesis action is involved. The basic components of this orthosis (Fig. 6) include a splint to hold the thumb and radial fingers in a claw-like configuration and a wrist cuff. These are coupled by two hinges and a power transfer bar so configured that wrist extension will produce finger flexion. This orthosis mechanically amplifies the weak wrist extension produced by the extensor carpi radialis muscle that is transduced into a crude form of power and precision grip.

Although all hand orthoses are imperfect (some more than others), when appropriately matched to the patient's functional defect, all contribute significantly to the restoration of hand function.

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Budd-Chiari Syndrome Following Pregnancy

Case Report

Thrombotic occlusion of the hepatic veins causing abdominal pain, ascites and hepatomegaly is an uncommon syndrome initially reported by Budd in 1845[1] and later by Chiari in 1899.[2] The etiologic factors remained relatively obscure as evidenced by Parker's review (1959) of 236 cases in which only 30% had a recognized underlying cause.[3] Although the Budd-Chiari syndrome (BCS) may develop spontaneously, a predisposing disorder has been implicated in approximately 70% of patients reported since 1960.[4, 5] The cause was recognized in 50% of patients reviewed by Tavill (1975),[4] in 83% of patients in Mitchell's report (1982),[5] and in 75% of patients reported by Powell-Jackson (1981).[6]

With increasing awareness of the syndrome, accurate diagnosis has established multiple primary as well as secondary causes. There are now more than 20 known causes and associated mechanisms.[4, 5, 7]

The most common underlying disorders reported in the western literature are hematologic dyscrasias that have a propensity for thrombus formation. Polycythemia rubra vera and paroxysmal nocturnal hemoglobinuria are the most frequently associated disorders in this group.[4, 5, 7-9] Membranes in the inferior vena cava were the most common cause of hepatic vein occlusion in 70% of patients reported in the Japanese literature.[10]

Other common mechanisms include tumors (especially hepatocellular), adrenal and renal cell carcinomas.[3-5, 7] Oral contraceptives increasingly have been implicated in BCS[4, 5, 11] and their widespread use has changed the usual male/female ratio of the disease of 1 : 1 to 1 : 2 in some series.[6] Pelvic infection is also cited in patients with this syndrome.[10] Pregnancy is now a well documented but still a rare cause of BCS. Thirty cases have been cited in the English literature, and the largest series of 16 cases was reported by Khuroo.[8, 10, 12] Because it is infrequently recognized, we are reporting a case of Budd-Chiari syndrome following pregnancy.

The Budd-Chiari syndrome following pregnancy continues to be a rare disease with only a few reports from western countries. This patient was at a high risk for hepatic vein thrombosis since she not only had pelvic sepsis but also was using oral contraceptives during the puerperium. Although the Budd-Chiari syndrome following pregnancy has resulted in death in the majority of reported cases, elimination of all risk factors afforded significant clinical improvement in this patient.

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Case Report

A 20-year-old black woman came to the Emergency Room with a sudden onset of abdominal pain, ascites and hepatomegaly. She was ten weeks postpartum with a history of third-trimester preeclampsia. Approximately two weeks after delivery, she began taking the oral contraceptive, Lo Ovral. She began experiencing a sensation of gastric fullness and mild nausea approximately four to six weeks following delivery. During the ninth week after delivery, she developed pelvic discomfort and dyspareunia.

Sudden severe right upper quadrant (RUQ) pain with nausea and vomiting occurred the day she was admitted to the hospital. On examination, the patient appeared acutely ill. Her blood pressure was 124/90, temperature 99°F. Her abdomen was diffusely tender and distended with ascites. The liver measured 11 cm at the mid-clavicular line and was noted to be extremely tender. Hypogastric pain was also elicited and a bimanual pelvic examination revealed cervical and bilateral adnexal pain and guarding. Mild pitting edema was present bilaterally in the lower extremities. The hemogram was abnormal with a hemoglobin level of 8.7 gm/dl; hematocrit value, 33% and white blood cell count (WBC), 11,600 mm^3. The platelets were $454.000/mm^3$ and the sickle cell screening was negative.

The prothrombin time was 89% of normal. The liver transaminases were normal as were the total bilirubin and alkaline phosphatase. The serum albumin was 2.5 gm/dl. Hepatosplenic scintiscan showed heterogenous uptake of TC 99m sulfur colloid in the liver, and there was no splenomegaly. An inferior vena cavogram showed free flow to the right atrium. There was no side-to-side narrowing of the intrahepatic portion of the inferior vena cava (IVC). Direct cannulation of the hepatic veins was unsuccessful, but one vein was visualized during the high pressure vena cavogram. Laparoscopic visualization of the liver revealed a dusky organ with a blunted anterior edge. Direct laparoscopic visualization of the pelvic organs showed bilateral salpingitis without abscess. The ascitic fluid was straw-colored and clear. A liver biopsy specimen via laparoscopy showed several central veins with an increase of subendothelial fibrous connective tissue and necrosis of liver cells in this area (Fig. 1). No thrombi were noted. Portal triads showed mild fibrosis. The sinusoids were dilated and empty. The rest of the liver architecture appeared normal.

Intravenous antibiotics afforded rapid resolution of pelvic symptomatology and decreased the leukocytes to 5,400 mm^3. The patient was also transfused with two units of packed cells achieving a hematocrit value of 34.6%. A trial of spironolactone had no effect on the abdominal ascites. The patient's abdominal pain improved over several days, and she was dismissed from the hospital with decreased liver tenderness and persistent abdominal ascites. She was instructed not to take oral contraceptives in the future and the diuretics were discontinued.

The patient was seen one month and three months later. The initial follow-up examination showed little change in liver tenderness and ascites. At three months, the ascites had markedly decreased, but the liver continued to be tender. The laboratory values on the second visit were as follows: hemoglobin, 11.2 gm/dl; prothrombin time (PT), 12/5 sec; Serum glutamic-oxaloacetic transaminase, 14u/L; serum glutamic-pyruvic transaminase (SGPT), 8 u/l; total bilirubin, 0.4 mg/dl; and serum albumin, 4.5 gm/dl.

Discussion

Pregnancy has been established as a significant etiologic cause of the Budd-Chiari Syndrome.[5, 10, 11] In addition to being ten weeks postpartum, this patient had two additional predisposing factors to hepatic vein thrombosis, i.e., oral contraceptives and pelvic infection. The underlying mechanism to this patient's thrombosis probably rests on the fact that pegnancy and oral contraceptives both alter blood clotting factors. A rise in factors VII, VIII and X and in fibrinogen occurs in pregnancy. In addition, an increase in platelets with high levels of fibrinogen and factors VIII occur during the puerperium.

Oral contraceptives cause a similar rise in coagulation factors.[13] and hypercoagulability with thrombotic events associated with birth control pills is well known. There is evidence that endotoxin heightens thrombotic activity,[7] which may be a factor in this case due to the pelvic infection. Coagulation disturbances similar to those found in pregnancy also occur during infection.[10] It is interesting to note that pelvic infection following pregnancy also was present in three patients in Khuroo's series.

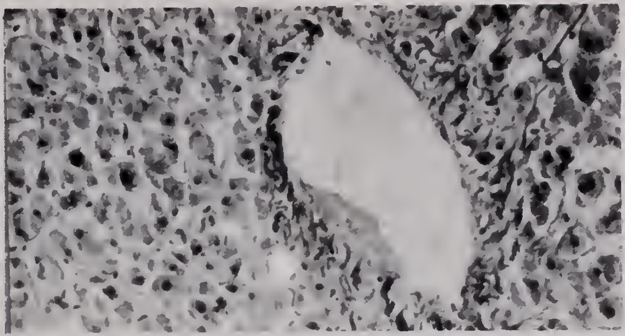

Fig. 1 **Central vein with periendothelial necrosis and fibrosis** ***(arrow).***

Ascites is present in 90% of patients with Budd-Chiari syndrome.[5] With no abnormal cardiac signs and symptoms, it was the most important physical finding that led to a work-up for occlusion of the hepatic veins. Pelvic inflammatory disease with peri hepatitis (Fitz-Hugh Curtis Syndrome)[14, 15] is now frequently recognized. This was included in our initial differential diagnosis. Ascites, however, is not present in the latter syndrome.

Results of liver scintigraphy were similar to those in previously reported cases.[5, 6, 9] Mitchell *et al* noted diffuse nonhomogenous uptake of tracer throughout the liver to be the most common finding and due to early hepatic engorgement.[6, 9] With eventual atrophy of liver parenchyma, the characteristic pattern on liver scan in thrombosis of hepatic veins is central accumulation of tracer in an enlarged hypertrophied caudate lobe. This phenomenon has been attributed to anatomical preferential route of arterial supply and a separate venous drainage into the infradiaphragmatic portion of the inferior vena cava by multiple small hepatic veins.[16] It has been hypothesized that outflow of the caudate lobe is preserved until late in the disease by virtue of the multiplicity of these veins.

Inferior venacavography was performed through the femoral vein. This study excluded the possibility of membranous webs in the subdiaphragmatic portion of the inferior vena cava as a cause of the Budd-Chiari syndrome. This is potentially a surgically curable malformation.[17] Engorgement of the caudate lobe causes side-to-side narrowing of the intrahepatic portion of the IVC that was not seen in our patient. The distal portion of only one hepatic vein was visualized in the anteroposterior view, which may indicate obstruction of other hepatic veins but is not considered as diagnostic. Direct hepatic vein catheterization would have been most informative.

By far, the most diagnostic procedure was a laparoscopic directed liver biopsy. The intense parenchymal changes of centrolobular tissue necrosis and sinusoidal congestion is typical of the Budd-Chiari syndrome. Increased right atrial pressure from cardiac disease (congestive heart failure, tricuspid insufficiency, right atrial tumors, constrictive pericarditis) could also cause similar liver damage, but our patient had no evidence of increased central venous pressure and no abnormal cardiac signs and symptoms. The subendothelial fibrosis of the central veins shows that the changes are not acute in onset and, therefore, have been progressing for several weeks. This corresponds to the history of gastric fullness (secondary to distention of the liver capsule) that had been present for approximately one month prior to our initial evaluation. The patient possibly had partial hepatic vein occlusion or thrombosis of minor vessels four to six weeks after delivery. The abdominal crisis then may have been triggered by complete thrombosis of major hepatic veins.

Medical therapy for hepatic vein occlusion rarely has been successful. Diuretics are occasionally useful for management of ascites, but the majority of patients are resistant.[5, 6] Anticoagulants seem to have little effect except for BCS associated with paroxysmal nocturnal hemoglobulinuria when dramatic benefit has occurred with prolonged heparin therapy.[7] Our patient was resistant to diuretic therapy. She has benefitted most from early treatment of the pelvic sepsis and elimination of birth control pills.

Various surgical procedures have been utilized for treatment of hepatic vein occlusion with progressive portal hypertension and ascites. Portosystemic shunts have offered long-term survival and even a cure.[5, 18, 19] Transposition of the spleen into the pleural cavity has prolonged life by promoting collateral flow from the high pressure systemic circulation to the lower pressure pulmonary circulation.[20] Orthotopic liver transplantation has also been performed in patients with BCS, with one patient living after 52 months.[6]

The natural history of the disease is usually one of progressive deterioration with hepatic failure (with or without gastrointestinal bleeding), ascites, coma and death. Fifty-six percent of patients died within one year as reported by Khuroo, and 89% of patients died within 3½ years in Tavill's series. Occasional remissions do occur, however, especially if the cause of disease is oral contraceptives and they are discontinued.[4, 10]

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Thinking is one thing no man has ever been able to tax. — CHARLES F. KETTERING

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Syndrome of Inappropriate Secretion of Antidiuretic Hormone: Changing Etiology

In 1957, Schwartz and associates reported two patients with bronchogenic carcinoma and a clinical picture suggesting the effects of exogenous vasopressin and water.[1] The latter included hyponatremia, serum hypoosmolality and inappropriate urine hyperosmolality in the presence of a normal volume status and an absence of renal or adrenal disease. These findings suggested antidiuretic hormone (ADH) production related to the neoplastic process. Their hypothesis was confirmed when ADH assays became available and showed not only elevated plasma ADH levels in some patients with bronchogenic carcinoma but also ADH in the tumor tissue itself, suggesting an ectopic (nonpituitary) site of production.[2]

The syndrome of inappropriate antidiuretic hormone secretion (SIADH) was soon recognized in a number of patients without evidence of malignancy. This included those patients with central nervous system diseases and pulmonary disorders and who used various drugs.[3, 4]

Our experience in a university hospital did not indicate that malignancy exceeded other causes of SIADH. Therefore, a study was undertaken to determine the causes of SIADH in two distinct patient populations: one served by a university hospital and the other by a private community hospital.

Methods

This retrospective study was conducted at Truman Medical Center, the primary teaching hospital for the University of Missouri-Kansas City School of Medicine, and a private community hospital in Kansas City. At each institution, charts of all patients who were given a discharge diagnosis of SIADH from 1973-1982 were reviewed. The following laboratory values were recorded for all patients: serum osmolality, serum sodium and potassium, serum glucose, blood urea nitrogen, creatinine, and urine osmolality. Thyroid function and adrenal function tests were noted when available. In addition, clinical evidence of the patient's volume status (generalized edema or extracellular volume depletion) was sought.

The cause of the SIADH was determined in each patient through a review of primary physician and consultant notes made during that admission and, in certain instances, by a review of the patient's subsequent clinical course. Patients included in the final tabulation met the following criteria for SIADH: hyponatremia (serum sodium less than 135), serum hypoosmolality (less than 275 mosm/ml) with urine hyperosmolality (inappropriately high for the degree of concurrent serum hypoosmolality) in the absence of clinically detectable abnormalities in extracellular volume (edema/signs of extracellular volume depletion), or without evidence of renal or adrenal disease.

Results

Twenty-four patients from the university hospital and 29 from the community hospital fulfilled these criteria. Two patients in the university group (Table 1, Patients #3 and #19) were counted as having two causes each. Thus, we considered 26 cases of SIADH in the university group. Table 2 summarizes the etiologic factors associated with SIADH in the two patient populations, and Table 1 presents clinical and laboratory characteristics of the individual patients. As can be seen in Table 1, the mean serum sodium,

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This study of the disease processes and pharmacologic agents that have been associated with the syndrome of inappropriate secretion of antidiuretic hormone (SIADH) was undertaken in two distinct patient populations: one served by a university hospital and the other by a private community hospital. It includes a discussion of the relationship of various drugs to the syndrome.

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TABLE 1
CLINICAL CHARACTERISTICS

	Patient #	*Age*	*Serum Na*	*Serum Osm**	*Urine Osm*	*BUN/ Creat*	*Etiological Cause*
University Hospital	1	25	127	231	186	11/.6	Neurosurg procedure
	2	58	123	251	368	4/.8	Pontine hemorrhage
	3	54	117	245	291	6/.5	Tegretol vs pneumonia
	4	73	115	251	473	12/.7	Thiazide
	5	63	113	230	430	6/.4	Oat cell ca
	6	42	122	270	347	7/.7	Tuberculosis
	7	52	117	246	275	4/.6	Elavil
	8	57	128	261	406	11/.6	Unknown
	9	57	116	242	748	7/.9	Bronchogenic ca
	10	41	115	223	194	8/.7	Thiazide
	11	70	120	244	568	6/.—	Etrafon
	12	67	124	261	782	10/.9	Pneumonia
	13	79	121	245	378	9/.1	Thiazide/chlorpropamide
	14	55	132	254	587	13/—	Adenocarcinoma-lung
	15	66	128	262	147	27/.1.0	Thiazide
	16	23	118	243	391	8/—	Head trauma
	17	50	125	241	360	—/1.9	Oat cell ca
	18	54	130	260	722	14/1.3	Tuberculosis
	19	66	122	266	342	18/1.0	Thiazide vs CVA
	20	69	123	262	399	5/.5	Oat cell ca
	21	59	117	257	611	7/.9	Unknown
	22	66	120	254	469	5/—	Thiazide
	23	51	128	272	661	14/.8	Head trauma
	24	61	115	231	501	11/.8	Oat cell ca
Mean:		56.58	121.5	250.08	443.17		
Community Hospital	25	73	120	248	428	9/—	Oat cell ca
	26	86	114	241	394	9/.5	Pneumonia
	27	70	118	248	700	23/.9	CVA
	28	70	118	240	580	18/—	Oat cell ca
	29	72	118	242	554	—/.9	Unknown
	30	55	121	261	318	—/—	Bronchiectasis/bronchitis
	31	67	114	250	533	—/.4	Unknown
	32	80	123	260	536	33/2.3	Unknown
	33	76	123	264	283	28/.9	CVA
	34	61	125	270	425	14/—	Thiazide
	35	73	124	260	445	—/1.3	Diffuse lymphocytic lymphoma
	36	51	116	230	749	11/—	Chlorthalidone
	37	82	123	259	494	18/.5	CVA vs pneumonitis
	38	83	101	208	597	15/.5	Unknown
	39	80	115	245	492	18/2.2	Unknown
	40	73	125	269	381	13/1.0	Thiazide
	41	82	120	271	470	14/.7	Cerebrovasculr arteriosclerosis
	42	74	112	248	341	13/.5	Unknown
	43	75	126	266	639	15/.7	Thiazide
	44	86	125	269	412	18/1.0	CVA
	45	53	110	234	365	8/—	Unknown
	46	90	110	219	555	13/.9	Pneumonia
	47	88	115	239	375	14/.7	Postoperative
	48	65	123	244	456	23/1.5	Unknown
	49	65	128	264	857	4/.7	Lung ca
	50	69	114	236	412	12/.8	Pneumonia
	51	76	122	250	230	—/1.1	Postoperative
	52	65	121	256	826	14/.7	Pharyngeal carcinoma
	53	69	124	268	502	16/.8	Cerebrovascular insufficiency
Mean:		72.72	118.90	250.31	494.79		

* Calculated Serum Osm. = 2(Na + K) + BUN/2.8 + Glucose/18.

TABLE 2
ETIOLOGY OF SYNDROME OF INAPPROPRIATE SECRETION OF ANTIDIURETIC HORMONE IN UNIVERSITY AND COMMUNITY SETTINGS

Etiologic Causes	*University*	*Community*	*Combined*
Neurological disorders	5 (19%)	6 (21%)	11 (20%)
Cerebrovascular accident	1	4	5
Head trauma	2	0	2
Neurosurgical procedure	1	0	1
Other	1	0	1
Infectious disorders	4 (15%)	5 (17%)	9 (16%)
Pulmonary	4	5	9
Tuberculosis	2	0	2
Pneumonia/bronchitis	2	5	7
Neoplastic disease	6 (23%)	4 (14%)	10 (18%)
Pulmonary	6	3	9
Oat cell	4	2	6
Adenocarcinoma	1	0	1
Unknown cell type	1	1	2
Pharyngeal carcinoma	0	1	1
Drug-Induced	9 (35%)	4 (14%)	13 (24%)
Thiazides	6	3	9
Other	3	1	4
Other	0 (0%)	2 (7%)	2 (4%)
Postoperative	0	2	2
Unknown Etiology	2 (7%)	8 (28%)	10 (18%)

serum osmolality and urine osmolality were similar in the two groups, whereas the mean age was considerably higher in the community hospital group.

Etiologic Causes

Neurological Disorders

The syndrome was attributed to neurologic disorders in 19% of the documented cases at the university (5/26) and 21% in the community hospitals (6/29). In the former, two cases were the result of head trauma, one case followed a neurosurgical procedure, and one case each was secondary to a cerebrovascular accident and an intracranial hemmorhage. The community hospital group was dominated by cerebrovascular accidents (four cases) or cerebrovascular disease (two cases).

Infectious Disorders

The association of infection with SIADH also was similar in the two groups: 15% of the university (4/26) and 17% of the community (5/29) cases. In both groups, pulmonary infections were implicated.

Malignancy

Cancer was considered the cause in 23% (6/26) and 14% (4/29) of the university and community cases, respectively. Most of the neoplasms were of pulmonary origin (9/10), usually of oat cell type (6), with one adenocarcinoma and two of uncertain cell type. In addition, there was one case of pharyngeal carcinoma and one case of diffuse lymphocytic lymphoma.

Drug-Induced

Drugs were more commonly associated with SIADH than any disease group in the university population, being implicated in 35% (9/26) of the cases. Thiazide diuretics were most frequent (six cases including one patient taking thiazide and chlorpropamide) with one case each attributed to tegretol, chlorpropamide, elavil and etrafon (a phenothiazine/tricyclic combination). Fourteen percent (4/29) of the community hospital patients were receiving thiazide medications throught to be the cause of the SIADH picture.

Unknown Causes

In 7% (2/26) of the university-group patients, no associated disorder or medication could be linked to the clinical syndrome of SIADH, and this rose to 28% (8/29) of the community patients.

Other

Two patients in the community hospital group developed SIADH in the postoperative period, each having received general anesthesia prior to orthopedic surgery.

TABLE 3
DISORDERS ASSOCIATED WITH SYNDROME OR INAPPROPRIATE SECRETION OF ANTIDIURETIC HORMONE

Neoplastic:
- Lung
- Larynx
- Esophagus
- Pancreas
- Duodenum
- Lymphoma
- Thymoma

Drugs:
- Thiazides
- Chlorpropamide
- Vincristine
- Cyclophosphamide
- Tricyclic antidepressants
- Barbiturates
- Oxytocin
- Nictotine
- General anesthetics

Central Nervous System:
- Trauma
- Subarachnoid hemorrhage
- Cerebrovascular thrombosis
- Meningitis
- Cerebral atrophy
- Hydrocephalus
- Brain tumors
- Guillain-Barre
- Lupus erythematosus
- Acute intermittent porphyria

Infectious:
- Tuberculosis
- Pneumonia
- Bacterial endocarditis
- Lung Abscess

DISCUSSION

Table 3 summarizes the disease processes and pharmacologic agents that have been associated with SIADH. Despite the many nonmalignant states listed, it is widely believed that most cases of SIADH are tumor-induced. However, few recent studies have attempted to delineate the causes of the syndrome. A 1968 study reports three of ten cases secondary to lung cancer with an additional four cases attributable to pulmonary infection, while a 1976 study of 26 cases ascribed 50% to neoplasm and only 4% to infectious processes.[5, 6] The largest study of SIADH to date claimed a 66% incidence of malignancy, and a recent review suggested that 75% were associated with tumors.[7, 8]

We found malignancy to be less frequently associated with SIADH than in most previous reports, *i.e.*, 18% (10/55) of the cases in our combined patient populations. While individual reports of drug-induced SIADH are numerous, no previous studies have established an important role for drugs in the syndrome. In contrast, our findings implicate drugs in 24% (13/55) of cases.

The apparent decrease in malignancy-associated SIADH is more likely relative than absolute: few patients were receiving thiazide diuretics when the first cases of SIADH were recognized. As thiazides became first-line agents for the treatment of essential hypertension and their usage increased markedly however, the association of drug-induced SIADH also increased while the number of malignancy-associated cases presumably remained constant. An example of the relative decrease in tumor-associated SIADH can be seen in our university group in whom malignancy accounted for 23% of the cases.

When exluding the nine drug-induced cases that may not have been seen 20 years ago, this tumor-induced proportion rises to 40% of cases. If the "unknown cause" cases are also excluded, malignancy increases to 46%. Excluding the drug-induced and "unknown cause" cases from the community group brings the malignancy proportion to 24% of cases.

Even taking the above factors into account, malignancy-associated SIADH is less common in our groups than in some previous studies. Perhaps this is due to differing patient populations in earlier reports. Etiologic incidence varied substantially in our two patient populations with respect to two of the causes (drug-induced and "unknown cause") implying that findings in other studies may also have been influenced by their patient populations.

Two conclusions emerge. First, the causes of SIADH may be changing from one dominated by neoplasm to one in which medications are playing an increasingly significant role. Second, the findings of etiologic studies may vary considerably with differing patient populations.

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BALANCED CALCIUM CHANNEL BLOCKADE!

CARDIZEM®
(diltiazem HCl)
balances
potent
coronary
vasodilation
with a low
incidence of
side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page. 2/84

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:
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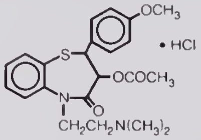
PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy) -5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

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Some have called the RFO Program "lifesaving." As physicians, we know the relationship between certain risk factors and longevity. Obesity is one of those factors—one we at IHM can help control.

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*Data on file, Institute for Health Maintenance.

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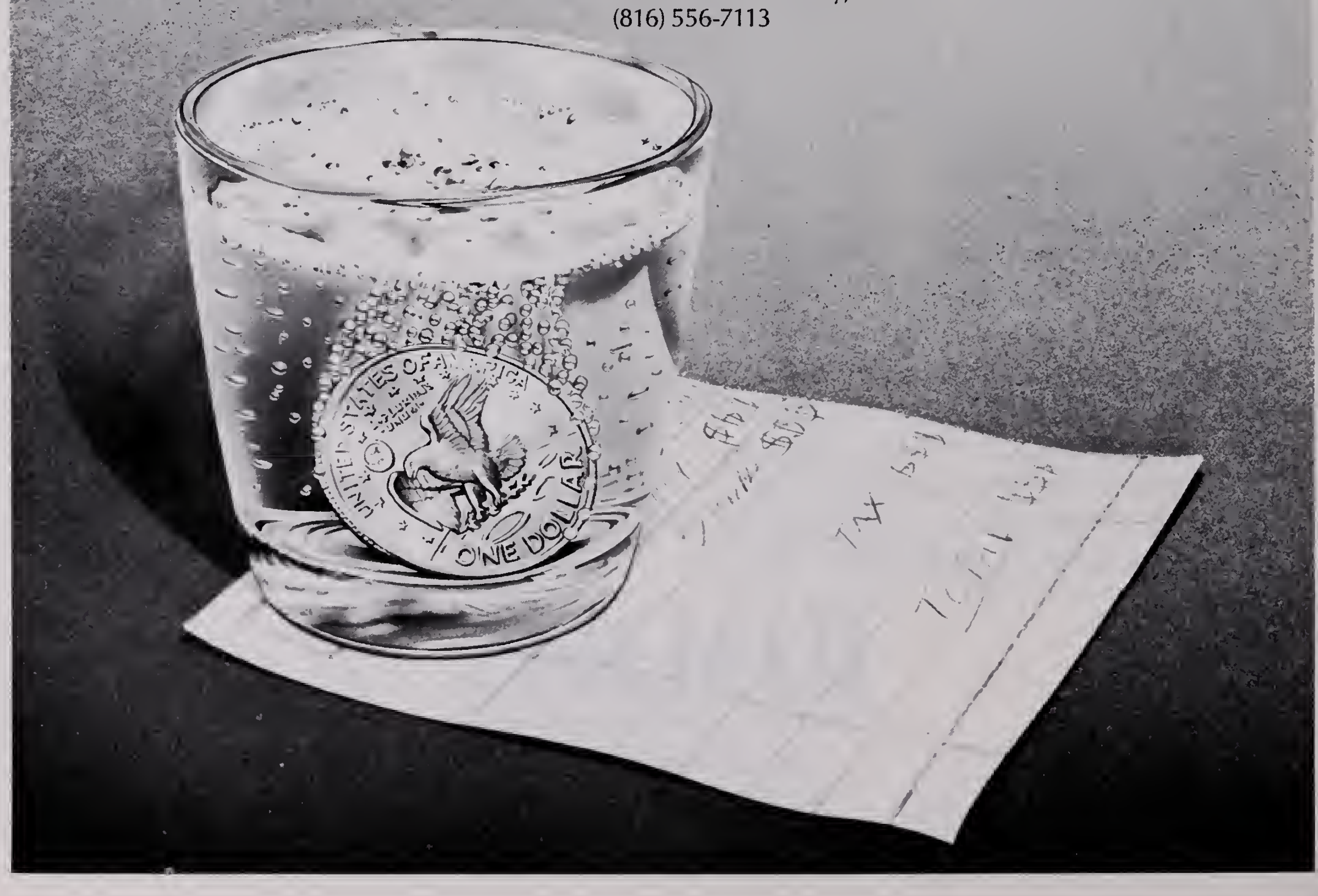


1984 Annual Convention

The Reference Committee on Resolutions listens intently to testimony given by MSMA members.

(Above) Dr. George Bohigian, St. Louis, addresses a proposed resolution during the Sunday morning session of the House of Delegates. *(Left)* Dr. William C. Allen, Columbia, receives a special Award of Recognition from MSMA President Ronald A. Youmans, M.D.

(Above) Drs. A. J. Campbell, William D. Miller and Alan L. Braun listen and debate during Reference Committee meetings. *(Above, right)* A large delegation of medical students study House actions. *(Right)* Dr. Hubert A. Ritter *(left)*, St. Louis, listens as Dr. George Hawkins, St. Louis, makes a point.

1984-1985 Officers & Councilors

At each Annual Convention, the House of Delegates elects its officers, AMA Delegates and Alternates, Councilors and Vice-Councilors. *(Right)* Dr. Arlen D. Winsky, Springfield, and Dr. Barbara Buchanan, Kansas City, were re-elected as Vice-Speaker and Speaker of the House of delegates, respectively. *(Below)* New MSMA President James M. Stokes *(left)*, St. Louis, shares a hearty handshake with President-Elect Walter A. German, Springfield.

First District. Councilor Richard C. Hedges.

(Above) (left to right) Council Vice-Chairman Larry G. Piepergerdes, MSMA Secretary Berry Ivy, Council Chairman H. Peter Ekern, and MSMA Treasurer Jay Meyer. *(Left) Second District* Vice-Councilor Carl R. Kruse and Councilor Robert V. Tompson *(right)*.

Third District. (Back row, left to right) Councilors David Wilkinson, Thomas J. Cooper, Frederick D. Peterson, Theodore L. Paletta. *(Front row, left to right)* Councilors Carol F. Williams, Richard H. Fallon, J. Otto Lottes and Vice-Councilor Bruce Stoliar.

(Upper Left) Fourth District Councilor William R. Richardson *(left)*, and Vice-Councilor Paul Rother. *(Above) Fifth District.* Council Chairman H. Peter Ekern *(left)*, and Councilor Alan L. Braun. *(Left) Sixth District.* Councilor A. J. Campbell *(left)* and Vice-Councilor Jerry Meyer. *(Lower left) Seventh District* Councilors James P. Hopkins and Dorothy Reister; Vice-Chairman Larry G. Piepergerdes. *(Below) Eighth District. (Left to right)* Councilors Francis M. Corry and Marvin A. Singleton; Vice-Councilor David W. Hall.

(Far left) Ninth District Councilor Jack Wiles. *(Left) Tenth District* Councilor Melvin C. Kasten. *(Below)* Student Vice-Councilor Chris Felton and Student Councilor Mary Colette Schmidt.

1984 Presidential Inauguration

Dr. James M. Stokes, M.D., St. Louis, receives the MSMA presidential gavel from outgoing MSMA President Dr. Ronald A. Youmans, Kansas City, during the Saturday night Inauguration.

50-Year Pin →

Members of the Missouri State Medical Association who have completed 50 years in the practice of medicine are honored each year at the Annual Convention.

The 43 members who attained this distinguished accomplishment in 1984 have been presented a special "50-Year" pin from the MSMA.

Those members who attended the Presidential Inauguration in St. Louis received their pins with congratulations from President Ronald A. Youmans on behalf of the MSMA.

MSMA

50-Year Physicians

Are Honored

Helen Aff, M.D., *St. Louis*
Edmund B. Alvis, M.D., *St. Louis*
Louis N. Berard, M.D., *St. Louis*
Eugene M. Bricker, M.D., *St. Louis*
John J. Brown, M.D., *Fulton*
Katherine S. Brown, M.D., *Fulton*
Benjamin H. Charles, M.D., *St. Louis*
John M. Collins, M.D., *St. Louis*
Kenneth E. Cox, M.D., *Kansas City*
Francis D. Dean, M.D., *Fayette*
Mildred C. Duer, M.D., *Kansas City*
Eugene H. Edele, M.D., *St. Louis*
Joseph C. Edwards, M.D., *St. Louis*
Ezra L. Evans, M.D., *Springfield*
Hyman H. Fingert, M.D., *St. Louis*
John T. Flynn, M.D., *St. Louis*
Leon J. Galinsky, M.D., *Tucson, Ariz.*
Merritt L. Gentry, M.D., *Springfield*
William H. Goodson, M.D., *Kansas City*
Paul O. Hagemann, M.D., *Chesterfield*
Stanley F. Hampton, M.D., *St. Louis*
Allen I. Herman, M.D., *St. Joseph*
Robert L. Jackson, M.D., *Kansas City, Kan.*
Dorothy J. Jones, M.D., *St. Louis*
Nicholas C. Kamakas, M.D., *Florissant*
Edward H. Klein, M.D., *Prairie Village, Kan.*
Seymour J. Kranson, M.D., *Hemet, Calif.*
Charles A. Lusk, M.D., *Butler*
Morris D. Marcus, M.D., *St. Louis*
Andrew D. Martin, M.D., *Sikeston*
James R. Meador, M.D., *St. Louis*
Paul Moss, M.D., *Kansas City*
M. Norman Orgel, M.D., *St. Louis*
Frederick C. Reynolds, M.D., *St. Louis*
Harry D. Rosenbaum, M.D., *St. Louis*
Leon H. Rubnitz, M.D., *Kansas City*
Charles E. Stindel, M.D., *St. Louis*
Horace E. Thomas, M.D., *Columbia*
Joseph F. Trigg, M.D., *Key Largo, Fla.*
John T. Vandover, M.D., *St. Louis*
R. Ned White, M.D., *Springfield*
Keith S. Wilson, M.D., *St. Louis*
Jack W. Wolf, M.D., *Kansas City*

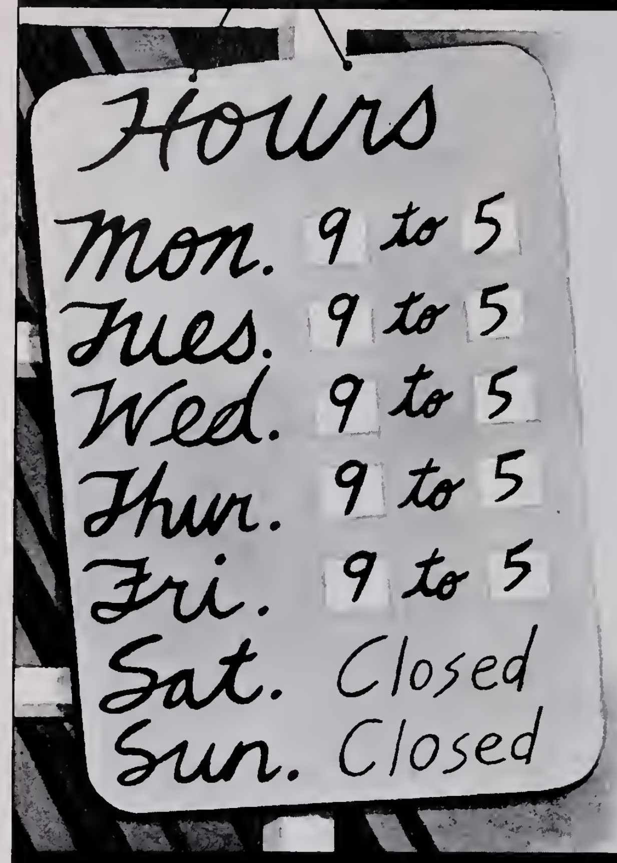
1984 Auxiliary Convention

Retiring MSMA Auxiliary President Jackie Sanders (Mrs. Donald) presents the official president's pin to Mrs. Richard Bowles, newly installed 1984-85 MSMAA president.

Mrs. William R. McPhee, Secretary and President-Elect designate of the AMA Auxiliary, speaks to members attending the Installation Luncheon. Mrs. McPhee is a past-president (1975-1976) of the MSMAA and has served in numerous other offices in both the AMA and MSMA auxiliaries.

Mrs. William R. McPhee installs MSMA Auxiliary officers for 1984-1985 at the Annual Installation Luncheon on Saturday. Seated at the table is Ms. Jean Duensing, MSMA staff liaison to the Auxiliary.

(Left) MSMA Auxiliary President-Elect Polly Bowles and Dr. Richard Bowles *(left)* visit with MSMA President-Elect James M. Stokes at the MSMA Auxiliary reception. *(Above)* More than $10,000 was raised at the annual Auxiliary Benefit Auction. The proceeds go to the Missouri State Medical Foundation and the AMA-ERF.



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Remarks of Ronald A. Youmans, M.D., President

Madam Speaker, Dr. Todd, fellow members, delegates, members of the Auxiliary and guests:

Thank you for a fascinating and challenging year!

From this position, I see a far greater variety of problems and new prospectives to complex older problems than I would ever have surmised. But the high quality of medical care and the continuing concern of the physicians in this state is magnificent. Your Missouri State Medical Association continues to serve the physicians of Missouri in ever-broadening programs to better provide medical care for our state's citizens.

The Long-Range Planning Committee has again reviewed goals and objectives. The primary concern continues to be to keep optimal medical care available to all citizens. You may recall that the previous MSMA presidents, Drs. Hansbrough and Matthews, specifically identified the "Availability of Care" as a primary concern of this association. The medical schools throughout the state continue to produce exceedingly well-informed, conscientious physicians to help maintain that availability.

I wish to congratulate and express appreciation to the hundreds of physicians who have been serving on multiple committees, spending many nearly-unappreciated hours in voluntary service to sustain the diverse activities of the Missouri State Medical Association. It is vital that new physicians continually be introduced to this enlightening and vital function.

The membership has continued to grow. The number of physicians participating in local community politics as well as participating in the state and national political action committees has gradually grown. The increasing number of MSMA members who support MMPAC and AMPAC places the Missouri State Medical Association as seventh in the nation in terms of PAC participation. Still, there are remarkably few physicians involved, considering the critical time that the profession faces. With new programs and new problems continually being created, their participation must be ever-increasing.

For many years, MSMA membership dues have been the lowest in the nation due to excellent management, a frugal and efficient staff, and a number of projects that supplement the income. You are now being asked to approve a modest increase at this meeting, and I urge you to respond positively. The additional income generated will be designated for the Impaired Physician Program and additional public relations projects.

More and more medical students obtain financial assistance through the Missouri State Medical Foundation, the student loan program of the Missouri State Medical Association. Your Council has reviewed the Foundation's activities and the repayment schedules and has revised the interest rates. The fund is providing a great service to the future physicians of the State of Missouri.

With the assistance of the MSMA Auxiliary, lay groups and physicians, the association played a significant role in providing increased safety for the citizens of Missouri by lobbying for the passage of the child passenger auto restraint seat legislation. The not-drinking-while-driving and highway speed legislations have added tremendously to the safety factors. Although I am certain politicians are grateful for the tax moneys raised through the alcohol and tobacco industries, one wonders if the health hazards introduced are greater than the benefits to civilization through these two dubious necessities of society. Moreover, the significance and irony is increased when one considers the huge expenses regulating toxic wastes and dioxins and others which may not yet have established hazards.

I remember quite clearly when medical charges could be scaled by the physician to be equivalent to a relative number-of-hours income. For example, the cost of an appendectomy may be a five-day's income or the cost of a total vasectomy, a ten-day's income. Such a system allows wide variation in the fee for particular service. It has always struck me as being a very fair way of charging. With third-party participation, however, the practice has become businesslike and the charge of a standard fee for a standard service has evolved.

This has led to a fee schedule that is now inferred to be excessive. Physicians have a long tradition of not producing hardship in payment. I have never met a physician who, if the patient makes the physician aware of financial problems, would not modify the charges appropriately. Physicians continue to give excellent care to patients who are unable to pay.

On Feb. 23, 1984, the AMA requested voluntary fee freezing by physicians for one year. For most of us, this poses no problem. It would be nice if our employees and all our suppliers likewise would agree to no increases for the year. Many of our expenses will increase, including the liability insurance. Perhaps legislators and lawyers should agree to limit their charges as well. Your Council has a resolution being introduced at this House of Delegates session to recommend that the Missouri State Medical Association requests Missouri physicians to institute a voluntary fee freeze.

As a citizen, I recognize that the social community is regulated by laws. The legislature conceives a law, but the rules and regulations are written by another echelon of legal minds who are assigned the task of carrying out the not completely stated intent of the legislature. Agencies such as the FTC seem to be presuming new areas of concern prompted by inapparent reasons but reinforced with judicial decision. I understand the bemusement of the labor community when suddenly labor contracts seem not to be as binding as they were 50 years prior simply by a change in court attitude without a change in law.

Historically, much of your government is operated on legal principles. Statesmen did what was appropriate because it was right for the people with an appropriate long-range effect. More recently, court interpretation of legislation seems to be on the basis of precedent to satisfy an immediate client or a lobbying group or a current social attitude with little attention to the long-range effect that such variations in interpretation may present.

With the TEFRA legislation of 1982, rules and regulations have caused a sampling of our previously considered appropriate health care system. Your executive committee has been diligent in its attempts to develop an acceptable PRO program as required under the TEFRA regulations to continue monitoring the care provided throughout the state. Under the soon defunct PSRO, a major emphasis was placed on moving patients from the hospital to intermediate care as quickly as circumstances would allow.

Under the new PRO program, which is designated primarily to save Medicare dollars, the attention must be toward being certain that the care given is adequate and the length of stay is adequate. Strangely, no regulation was initiated that voiced regard for the quality of care. Secretary Heckler simply stated that physicians have always provided quality care and are expected to continue such top quality.

With the changes, the patient has become less important in making his medical decisions. Under the new system, when an individual accepts employment, the employer will elect the medical care that may be adequate for his employees, where it may be obtained, and how much he wishes to pay by prearranged contracts. I am reminded of a historical time when employees were graciously provided conveniences pur-

(Continued on page 376)

Remarks of James M. Stokes, M.D., President-Elect

MEMBERS OF THE MSMA strived to achieve the best in scientific and medical care delivery to patients during the past, and this goal remains with us. It is not change but the rapidity of change that challenges medical care today.

A brief review of milestones in American medical care since the Civil War indicates the accelerations of these changes. Medical education progressed from an apprentice-teacher relation to structured courses of accreditation in a university setting. The Flexner Report, early in this century, formed a national basis for this great advance. Basic research applied to diseases exploded with advances in chemistry, radiation, anaesthesia and the dramatic ability to cope with infections. Centers of hospital care combining special diagnostic and clinical expertise combined with universities evolved rapidly within many large cities achieving international acclaim.

Sociological changes were not far behind and legislation was enacted to provide access to modern hospitals in non-urban areas (The Hill-Burton Act). Medical technology thus became available to large sections of the country and, with it, medical specialists.

Medical care progress was also reflected in changing political ideologies that persuaded legislatures that equitable access to health care was still inadequate. This culminated in the passage of the Health Manpower Act of 1965 and implemented Medicare and Medicaid provisions as self-sustaining bureaucracies. The political promise of total medical care without financial constraint produced a ballooning of health costs that had been predicted by statisticians. Newer technical advances have added enormous increase in costs.

Critics of these compounding cost increases sought control in several forms. Terms of "Peer Review," "quality control" and "medical accountability" appeared. Quality efforts were supported by physicians and hospitals with only partial success. Federal legislation and PSROs found regulations that were quickly recognized as *cost control* in priority with "*quality*" ranking second or third. The magnitude of Medicare cost estimations are exemplified by expenses in the first month of 1983 that equaled those in the entire first-year expenditures of 1966, leading to forecasts of Medicare's bankruptcy by 1987. Expenses for Medicare grew from 4% to 10% of the Gross National Product. This is still less than 50% of the U.S. defense budget for 1985 ($100 billion, medical and $230 billion, defense).

Physicians fees still compose only 12% of the health dollar expended. Cascading legislation including national health planning, resource development, omnibus reconciliation bill, and the prospective payment system have produced massive regulations unproven and frequently contradictory. This alphabet soup of health care delivery provides a system similar to automobile production in which each item is cost accounted. Quality is secondary to expense of the final product. But a "lemon" in this medical system is not a car or inanimate product, but a patient. Cost reduction is essential, a view supported by all physicians. More than 100 local and state medical organizations and the AMA have asked physicians to freeze professional charges to the elderly and indigent patients. It remains to be seen whether hospitals can perform a similar reduction. Their inflation rates were 15.7% in 1982, and predictions for hospital costs in ten years are expected to top $1 trillion. The solutions presently proposed are total control of providers (hospitals and physicians) similar to a utility and contained in the Gephardt-Kennedy legislation.

The likely success of this policy is summarized by Mr. Evarts Graham, a liberal newspaper columnist evaluation from the esteemed Brookings Institute. They concluded that rigid capitation would only shift the cost from one setting to another without significant reduction of total expense. Mr. Merton Bernstein, Professor of Law, Washington University, predicted that efforts to exhaust cost containment may cause errors that *reduce* patient care quality by incentives to reduce expenses.

Other ramifications of revolutionary changes were described by Dr. Alvin Toffler, the author of "Future Shock," and "The Third Wave." He reassessed social changes in the last decade at the AMA Leadership Conference and summarized social history in three periods: (1) The Agrarian Period; (2) The Industrial Revolution or "Smoke Stack Age"; and (3) Massive High Technology or the "Third Wave." His view is not pessimistic for society, including medicine. High technology, he predicts, will change traditions of production and service methods that will afford varieties of production without mass collections of personnel and material in one geographic area. This decentralization by computerization will likely increase individualism, both commercially and in the medical care services, providing higher quality in smaller communities. Rationing of treatment by political budget instead of patient needs is a simplistic view and possibly hypocritical since government institutions do not have to conform to these standards.

Government has succeeded in controlling vast areas of society, including transportation, the banking industry and the communications industry (although they are now breaking it up) and government is on the brink of controlling medical care.

Physicians of the Mayo Clinic Health Care Unit described large business coalitions, labor organizations and health administrators as "buyers" of health care (not defined), and their solutions included: (1) increased sharing of cost by the patient; (2) deferring the age of Medicare coverage beyond 68 years; and (3) The Gephardt-Kennedy legislation, placing absolute control on health care providers. The latter rations medical care solely by enforcing arbitrary cost controls by the federal government and placing the *responsibility* for quality, overhead expenses and litigation exposure upon physicians and other allied health personnel. The results of this absurdity might lead to health and Social Security coverage of persons only over age 85 and with certain diseases. Death might well overtake the patient before meeting the criteria of eligibility for medical care or social security.

In this context, medicine should acknowledge the need for competent legal, financial and sociological expertise just as we recognize our own specialties. Legal specialization is on the horizon and medicine should understand this improvement in a vital area, just as cognitive judgment is recognized in patient care.

As Mr. Naisbitt emphasized in "Megatrends," high technology has produced a system in which we are "drowning in information but starving for knowledge," a simple corollary for the differences in having information without judgement.

The only responsible answer to this rate of change is knowledge of legislation, economics and continued personal care of the patient.

The key word is *participation* and the time is participation today, for the future is today if we are to maintain the goals of patient care.

Report of Mrs. Donald Sanders, President of the MSMA Auxiliary

Madam Speaker, Dr. Youmans, Dr. Todd, members of the House of Delegates and guests.

The Missouri State Medical Association Auxiliary is proud to present a report of an excellent year. As a result of the interest, cooperation and dedication of our 1,300-plus members, many areas of concern were touched.

Legislation has been a primary concern this year. We sincerely believe that we made an effective communication contribution in regard to the passage of the Child Auto Safety Restraint Seat Bill. Actually, it was our hope to be instrumental in producing an educational brochure for distribution.

This year, the MSMA Auxiliary Key Contact program became a reality and our Auxiliary felt that there was very keen interest in this program.

Due to the effort of Mrs. Stephen Vilmer, our legislation chairman, an active program and legislative award system for county medical society auxiliaries has been established.

Mrs. Vilmer also produced for the county auxiliaries an outstanding Legislative Day on March 14 in Jefferson City. The program included a breakfast session with Mr. C. C. Swarens in the Capitol Building, visits to the sessions of the House of Representatives and Senate, a tour of the Capitol Building, lunch with our legislators, and a tour of the historic Governor's Mansion.

Forty-three legislators attended the luncheon as guests of members of over 50% of our county auxiliaries. Sen. John Scott, President Pro Tem of the Senate, and MSMA Legislative Chairman, Dr. John I. Matthews, were the featured speakers.

Other programs accomplished throughout the state were a special effort in regard to membership, child auto restraint safety seat donations and education; health fairs; organ donor programs; "Kids on the Block" program to help elementary school children to learn about and better understand handicapped people, especially children; auctions and fund raisers to generate funds for the Missouri State Medical Foundation; AMA Educational Research Foundation and other health-related scholarships; substance abuse programs; child abuse; blood pressure screening; Meals on Wheels; food and clothing for the needy; "Shape Up for Life" fitness programs; and others.

Our latest project is the production of bumper stickers saying "BUCKLE UP — Your Physician Cares." These bumper stickers are now available here at this convention for your purchase. They will be at the registration desk. We hope that you will purchase these and take them back. Use them!

Because our annual Doctor's Day occurs during this convention, many county auxiliaries have changed their celebration date for this special occasion.

We have reinstated our five district workshops throughout the state for the purpose of providing leadership training and making our county auxiliary members more aware of the state and nation and the concerns and programs available.

Although the number of members of our 23 county medical society auxiliaries varies from six to 290, their activities are structured to meet the specific needs of their individual communities.

I would like to thank the MSMA staff, the MSMA Council and each MSMA member for your support, suggestions and encouragement this year. Your guidance has been invaluable.

This has been an exciting, educational and rewarding year for me as president of the MSMA Auxiliary since each individual member and county auxiliary has "Reached Out and Touched" throughout the year. Because of their dedication, I know that the MSMA Auxiliary will grow as we continue to reach out and touch . . . a friend, a neighbor, a home, a stranger.

I extend to you a friendly and personal invitation from all the members and officers to attend the Annual Benefit Auction tonight. Both the MSMF and the AMA-ERF need your support — and this is your one opportunity to do so and have a lot of fun while doing it. Help us pass that $10,000 mark that we reached last year.

On behalf of the Missouri State Medical Association Auxiliary, I sincerely wish you a very successful 126th Annual Convention.

Remarks of the President

(Continued from page 372)

chased only through the company store, a selection provided by the employer. One wonders if the employee again owes his soul to the employer.

I find this loss of dignity and individuality by the patient repugnant. The loss of professionalism by the physician as he is grouped into a business unit is equally undesirable. History has repeatedly demonstrated that the best medical care is provided by a direct rapport and competence between the patient and a competent physician.

MOMEDICO has continued to provide excellent service for the members of the Missouri State Medical Association in its professional liability programs. There is no apparent legal relief for the ever-rising expense of liability insurance, but it is fortunate that we as MSMA members can turn to MOMEDICO for good, sound protection.

The challenge for the coming year is manifold. It is for this association to continue providing its multiple services to the physicians of the State of Missouri, to develop appropriate guidelines and assistance in helping physicians in the complex transition into the new world of federal regulations for nearly half of their practice, and to provide new educational programs for the citizens of Missouri to help them understand their options. Although important medical legislation was passed in 1982, not only are most physicians unaware of the implications of this legislation, but the citizens of Missouri have little insight to the restrictions of availability and to the limitations of medical progress that are inherent.

Ladies and gentlemen, you are living in an exciting and challenging time. Thank you.

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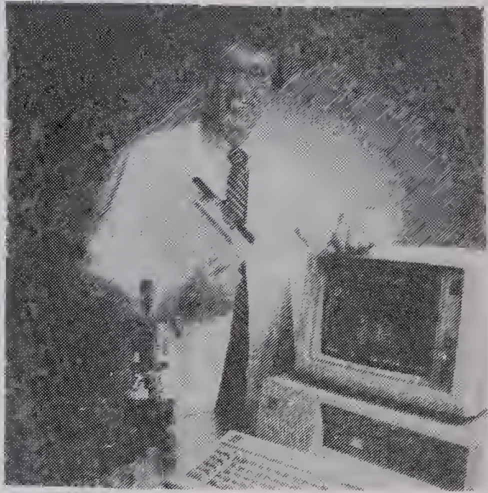

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126th Annual Convention

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates

Marriott's Pavilion Hotel — St. Louis

March 29-April 1, 1984

This report of the 1984 MSMA Annual Convention held at Marriott's Pavilion Hotel in St. Louis is designed to provide each member with a concise but complete summary of the meeting and the actions taken by the House of Delegates. The minutes of this session are available to members of the MSMA at the Headquarters Office in Jefferson City.

FIRST SESSION

The first Session of the House was called to order at 10:30 AM on March 29, 1984 with Speaker Barbara Buchanan, M.D. presiding. The following officers and delegates were present during the 126th Annual Convention:

OFFICERS

President	Donald A. Youmans, Kansas City
President-Elect	James M. Stokes, Chesterfield
Vice-President	Robert C. Fairchild, Shawnee Mission, Kan.
Vice-President	Virgil E. Jeans, Joplin
Secretary	Berry Ivy, Springfield
Treasurer	Jay Meyer, St. Louis
Speaker of the House	Barbara Buchanan, Kansas City
Vice-Speaker of the House	Arlen D. Winsky, Springfield
Immediate Past-President	John I. Matthews, Jefferson City

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3rd District	Richard H. Fallon, St. Louis
3rd District	Carol F. Williams, St. Louis
3rd District	Robert R. MacDonald, Jr., St. Louis
3rd District	J. Otto Lottes, St. Louis
3rd District	Theodore L. Paletta, St. Louis
3rd District	Frederick D. Peterson, St. Louis
4th District	William R. Richardson, Union
5th District	H. Peter Ekern, Mexico
5th District	Alan L. Braun, Jefferson City
6th District	A. J. Campbell, Sedalia
7th District	Dorothy D. Reister, Shawnee Mission, Kan.
7th District	Larry G. Piepergerdes, Kansas City
7th District	James P. Hopkins, Kansas City
7th District	Braham J. Geha, Kansas City
8th District	Walter A. German, Springfield
8th District	Marvin A. Singleton, Joplin
9th District	Jack Wiles, West Plains
10th District	Melvin C. Kasten, Cape Girardeau
Student Councilor	Tom Reardon, North Kansas City

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5th District	Kenneth L. Rall, Columbia
6th District	Jerry Meyer, Concordia
8th District	Francis M. Corry, Springfield
9th District	O. Martin Hasek, Mountain Grove
Student Vice-Councilor District	Mary Colette Schmidt, Columbia

DELEGATES

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Andrew	Warren C. Baker, Savannah
Buchanan	Edward H. Andres, St. Joseph
Buchanan	Gary A. Dyer, St. Joseph
Buchanan	Charles N. Mullican, St. Joseph
Buchanan	Thomas M. Sodeman, St. Joseph
Buchanan	Ernest E. Wadlow, St. Joseph
Buchanan	Eugene G. Wolanski, St. Joseph
Clay-Platte	Richard P. Bowles, Liberty
Clay-Platte	Donald A. Fakhoury, Kansas City
Clay-Platte	Donald E. Kuenzi, Kansas City
Clay-Platte	William R. McPhee, Kansas City
Clay-Platte	Carl M. Myers, Platte City
Clay-Platte	William D. Soper, Liberty
Clay-Platte	Stephen E. Vilmer, Kansas City
Grand River	John R. Dixon, Brookfield
Northwest	Edward Bare, Tarkio
Northwest	Pat B. Harr, Maryville
Northwest	James Humphrey, Mound City

Second District

Chariton-Macon-Monroe Randolph	C. C. Cohrs, Moberly
Chariton-Macon-Monroe Randolph	J. Will Fleming, Moberly
Northeast	Purificacion Florendo, Hannibal
Northeast	Stanley Hall, Hannibal
Northeast	Carl Kruse, Palmyra
Pike	Lawrence G. Stuerman, Louisiana

Third District

St. Louis	Eugene Adelmann, St. Louis
St. Louis	Charles B. Anderson, St. Louis
St. Louis	Luis B. Anglo, St. Louis
St. Louis	William H. Bailey, St. Louis
St. Louis	Vernon H. Balster, St. Louis
St. Louis	M. Roman Banton, St. Louis
St. Louis	William C. Banton, II, St. Louis
St. Louis	Martin J. Bell, St. Louis
St. Louis	Paul Bettonville, St. Louis
St. Louis	Sarwath Bhattacharya, St. Louis
St. Louis	Ralph L. Biddy St. Louis
St. Louis	James G. Blythe, St. Louis
St. Louis	George M. Bohigian, St. Louis
St. Louis	C. Read Boles, St. Louis
St. Louis	Robert L. Bolton, St. Louis
St. Louis	Harold H. Bowerman, St. Louis
St. Louis	Arnold G. Brody, St. Louis
St. Louis	Kenneth Bruns, St. Louis
St. Louis	E. B. Cabbabe, St. Louis
St. Louis	Carlo Caciolo, St. Louis
St. Louis	Sol F. Cantor, St. Louis
St. Louis	Mary E. Case, St. Louis
St. Louis	Frank Catanzaro, Jr., St. Louis
St. Louis	Michael J. Chehval, St. Louis
St. Louis	Harry O. Cole, St. Louis
St. Louis	Donald L. Coleman St. Louis
St. Louis	Nicholas J. Colosi, St. Louis
St. Louis	Mario A. Coronado, St. Louis
St. Louis	Joseph Costello, St. Louis
St. Louis	Richard J. Dames, St. Louis
St. Louis	Richard K. Danis, St. Louis
St. Louis	Udaya Dash, St. Louis
St. Louis	Fernando J. DeCastro, St. Louis
St. Louis	Pablo C. deUngria, St. Louis
St. Louis	Peter A. Diemer, St. Louis
St. Louis	Robert M. Donati, St. Louis
St. Louis	V. P. Dumadag, St. Louis
St. Louis	James E. Edwards, St. Louis
St. Louis	Devera M. Elcock, St. Louis
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St. Louis	Raymond O. Frederick, St. Louis
St. Louis	Paul L. Friedman, St. Louis
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St. Louis	Frank O. Richards, St. Louis
St. Louis	Michael R. Richmond, St. Louis
St. Louis	Edward M. Ring, St. Louis
St. Louis	Hubert A. Ritter, St. Louis
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St. Louis	John P. Roberts, St. Louis
St. Louis	Jo-Ellyn M. Ryall, St. Louis
St. Louis	Shabbir H. Safdar, St. Louis
St. Louis	Antonio B. Santillano, St. Louis
St. Louis	Edwin H. Schmidt, St. Louis
St. Louis	W. P. Schuessler, St. Louis
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St. Louis	Harvey Walker, Jr., St. Louis
St. Louis	Bruce Walz, St. Louis
St. Louis	Harry A. Wittler, St. Louis
St. Louis	James M. Whittico, St. Louis
St. Louis	James R. Wiant, St. Louis
St. Louis	David L. Wilkinson, St. Louis
St. Louis	Ray J. Wolff, St. Louis
St. Louis	Horst Zekert, St. Louis

Fourth District

Franklin-Gasconade-Warren	John O'Connor, Warrenton
St. Charles-Lincoln	Paul Rother, St. Charles
St. Charles-Lincoln	Brian Stufflebaum, St. Peters

Fifth District

Audrain	John T. Critchlow, Mexico
Audrain	Raymond Wilbers, Mexico
Boone	William C. Allen, Columbia
Boone	Thomas R. Anderson, Columbia
Boone	Charles Barbee, Columbia
Boone	William D. Bradshaw, Columbia
Boone	Diane T. Brukardt, Columbia
Boone	James C. Denninghoff, Columbia
Boone	Richard A. Heimburger, Columbia
Boone	Ben Moranville, Columbia
Boone	Stephen Phillips, Columbia
Boone	Kenneth L. Rall, Columbia
Boone	James A. Roller, Columbia
Boone	Gilbert Ross, Columbia
Boone	Hugh E. Stephenson, Jr., Columbia
Boone	Jerry W. Templer, Columbia
Boone	Robert M. Thomas, Columbia
Cole	Victoria Gunn, Jefferson City
Cole	Donald Miller, Jefferson City
Cole	Thomas Ryan, Jefferson City
Cole	Johannes Schokker, Jefferson City
Cole	Nelson White, Jefferson City
Cooper	George Winn, Boonville
Lake of the Ozarks	Loren Washburn, Versailles
Montgomery	Samuel J. Byland, Wellsville

Sixth District

Lafayette-Ray	George Davault, Richmond
Lafayette-Ray	W. C. LaHue, Lexington
Pettis	Wiliam R. Cole, Smithton
Pettis	Robert G. Stockwood, Sedalia
West Central	Robert L. Magee, Eldorado Springs
West Central	Candice A. Moore, Nevada
West Central	M. Ted Moore, Nevada

Seventh District

Jackson	Steven H. Behrends, Kansas City
Jackson	Douglas B. Bogart, Kansas City
Jackson	Raymond J. Caffrey, Kansas City
Jackson	Calvin J. Curts, Kansas City
Jackson	William E. Dorzab, Kansas City
Jackson	Robert C. Fairchild, Kansas City
Jackson	Chester F. Fee, Kansas City
Jackson	Curtis U. Franklin, Kansas City
Jackson	John W. Hardy, Kansas City
Jackson	George P. Hoech, Jr., Kansas City
Jackson	Lawrence L. Hyde, Kansas City
Jackson	Bernard O. Judy, Kansas City
Jackson	Pierre W. Keitges, Kansas City
Jackson	John K. Layle, Jr., Kansas City
Jackson	King Y. Lee, Kansas City
Jackson	Carleton J. Lindgren, Kansas City
Jackson	R. Stacy Long, Kansas City
Jackson	Donald E. McIntosh, Kansas City
Jackson	Thomas B. McKell, Kansas City
Jackson	William J. Medlicott, Kansas City
Jackson	Richard B. Michelson, Kansas City
Jackson	Thomas A. Nicholas, Kansas City
Jackson	W. R. Peterson, Kansas City
Jackson	Thomas P. Phillips, Kansas City
Jackson	Kenneth C. Place, Kansas City
Jackson	Robert A. Raich, Kansas City
Jackson	G. R. Reinhardt, Kansas City
Jackson	Donald Sanders, Kansas City
Jackson	Kenneth J. Sells, Kansas City
Jackson	Elias M. Throne, Kansas City
Jackson	Paul A. Williams, Kansas City
Jackson	David D. Zoller, Kansas City

Eighth District

Greene	A. A. Ancheta, Springfield
Greene	Floyd R. Barnhill, Springfield
Greene	Nancy H. Ceaser, Springfield
Greene	Michael S. Clarke, Springfield
Greene	F. M. Corry, Springfield
Greene	Darrel Domann, Springfield
Greene	Michael Gentry, Springfield
Greene	David Hal, Rogersville
Greene	Duane Hellam, Springfield
Greene	Berry Ivy, Springfield
Greene	W. B. Johnson, II, Springfield
Greene	Richard W. Kissell, Springfield
Greene	Norman P. Knowlton, III, Springfield
Greene	Don Menchetti, Springfield
Greene	DeArmond Moore, Springfield
Greene	Stanley Peterson, Springfield
Greene	Dan Sullivan, Springfield
Greene	Courtney Whitlock, Springfield
Jasper	Walter C. Dandridge, Joplin
Jasper	Jim D. Frogge, Joplin
Jasper	T. Keith Grebe, Joplin
Jasper	Adolph R. Mueller, Joplin
Jasper	Carl C. Pearman, Joplin
Jasper	Robert L. Willcoxon, Joplin
Ozarks	Richard Betz, Neosho
Ozarks	Robert Betz, Neosho
Ozarks	Dan Campbell, Mt. Vermon
Tri-Lakes	Thomas L. Huffman, Branson
Webster	T. M. Macdonnell, Marshfield

Ninth District

Mid-Missouri	Barry J. Bass, Salem
Mid-Missouri	Robert M. Huster, Rolla
Mid-Missouri	George Slahorek, Ft. Leonard Wood
South Central	O. M. Hasek, Mountain Grove
South Central	L. G. Mayuga, Cabool
South Central	C. F. Smith, Willow Springs

Tenth District

Butler-Wayne-Ripley-Carter	Kirby Turner, Poplar Bluff
Cape Girardeau	Jean A. Chapman, Cape Girardeau
Cape Girardeau	Gordon W. Eller, Cape Girardeau
Cape Girardeau	Theodore Glenn, Cape Girardeau
Cape Girardeau	John K. Holcomb, Cape Girardeau
Cape Girardeau	E. D. Johnson, III, Cape Girardeau
Cape Girardeau	Ronald W. Swinfard, Cape Girardeau
Dunklin	Lanny W. Geary, Kennett
Jefferson	Nino Datta, Crystal City
Jefferson	Martha Reed, Hillsboro
Perry-Ste. Genevieve	Job B. Pontillas, Perryville
SEMO	Donald Cento, Sikeston
SEMO	Ed Masters, Sikeston
SEMO	William D. Miller, Dexter
SEMO	William Shell, Sikeston

Delegates-At-Large

Barbara Buchanan, Kansas City, Speaker
Arlen D. Winsky, Springfield, Vice-Speaker

Past-Presidents

Richard V. Bradley, St. Louis
Walter T. Gunn, St. Louis
E. T. Hansbrough, Poplar Bluff
John N. Martin, St. Joseph
John I. Matthews, Jefferson City
Howard J. McAlhany, Springfield
Andrew McCanse, Kansas City
E. A. Stricker, Rolla
Byron M. Stuart, Boonville

Student Delegates

Mr. Michael F. Boland, University of Missouri-Columbia School of Medicine
Mr. Chris Felton, St. Louis University School of Medicine
Ms. Anne Fitzsimmons, University of Missouri-Columbia School of Medicine
Mr. Michael Funderburk, University of Missouri-Kansas City School of Medicine
Ms. Ann Hellerstein, University of Missouri-Kansas City School of Medicine
Mr. Hugh Hetherington, St. Louis University School of Medicine
Mr. Mark Schickendantz, St. Louis University School of Medicine

Dr. Richard Bradley, chairman of the Credentials Committee, reported that eight officers, 20 councilors and 140 delegates were present and constituted a quorum.

The minutes of the 125th Annual Convention at Tan-Tar-A Resort, Osage Beach were approved as reported in the July, 1983 issue of Missouri Medicine.

The speaker announced the appointment of the following reference committees:

CONSTITUTION AND BYLAWS

Dan T. Sullivan, Springfield, *Chairman*
Douglas B. Bogart, Kansas City
Michael Funderbuck, University of Missouri-Kansas City
Patricia O'Neal, St. Louis

REPORTS OF OFFICERS

William H. Huffaker, St. Louis, *Chairman*
William C. Shell, Sikeston
Tehmtom S. Mistry, St. Louis
Raymond J. Caffrey, Kansas City
Walter C. Dandridge, Joplin

RESOLUTIONS

John K. Layle, Kansas City, *Chairman*
William R. Cole, Smithton
Harvey Walker, Clayton
Thomas R. Sodeman, St. Joseph
Donald Miller, Jefferson City

The Speaker introduced Ronald A. Youmans, M.D., president of the MSMA; James M. Stokes, M.D., president-elect of the MSMA; and Mrs. Donald Sanders, president of the MSMA Auxiliary. Dr. Youmans and Mrs. Sanders addressed the House and their remarks are published in this issue, beginning on page 371.

The Speaker then introduced Hubert A. Ritter, M.D. of St. Louis, a member of the AMA Board of Trustees and a past president of the AMA Educational Research Fund (AMA-ERF). Dr. Ritter spoke briefly about the AMA-ERF and then assisted Mrs. Sanders in presenting AMA-ERF checks to Missouri's four medical schools as follows: Washington University, $8,718 (unrestricted funds) and $21,450.50 restricted funds); University of Missouri-Columbia, $4,835 and $1,654; University of Missouri-Kansas City, $4,371 and $417; and St. Louis University, $16,633 and $5,102.

Dr. Youmans announced the 1984 recipient of the annual Missouri State Medical Association's *Citizenship and Community Service Award*, which he presented to Dr. Claude Wesley, Cooper, Jr. of Thayer. Criteria for nomination for the award are as follows:

"The recipient must have made an outstanding contribution to the community for citizenship and public service above and beyond the call of duty as a practicing physician."

Dr. Youmans pointed out that Dr. Cooper has shared more than just his medical expertise with his home town by "sharing himself" via his time and talent for more than 50 years.

Dr. Cooper's contributions range from serving 25 years as president of the Oregon County School Board to eight years as the MSMA Ninth District Councilor. He has served as chairman of the Oregon County Democratic Committee and actively participated in both the Missouri Medical Political Action Committee and the American Political Action Committee.

In 1981, the Thayer City Council proclaimed "Dr. Cooper Appreciation Day" and more than 700 visitors attended the special reception to signify their honor, love and appreciation.

On April 15, 1981, the Missouri House of Representatives passed a resolution for presentation to "one of Missouri's most distinguished men of medicine, Dr. Claude Wesley Cooper, Jr." One article of the resolution read, "Whereas, despite a vigorous and demanding schedule, Dr. Cooper has always managed to find time for participation in a variety of social, educational, cultural and religious activities."

Dr. Youmans then presented the *1984 President's Award* to William C. Allen, M.D. of Columbia "to recognize and honor a colleague who has truly earned our respect and appreciation."

He stated that Dr. Allen has consistently been a stalwart supporter and firm advocate of the best for public health care and the best of medical education.

Dr. Allen, who began his practice in Glasgow, is now Assistant Dean of the University of Missouri-Columbia School of Medicine. He has been active in organized medicine at all levels and has served in leadership positions for the Howard County and Boone County medical societies, the Missouri Academy of Family Practice, the Academy of Family Physicians and the Missouri State Medical Association.

In addition to contributing many hours to committee and commission meetings for the American Heart Association and the American Diabetes Association, Dr. Allen has been instrumental in the activities of the Mid-Missouri Areawide Comprehensive Health Planning Agency, the Mid-Missouri Health Review Council and the Mid-Missouri PSRO Corporation. He has been the author of nine publications and has produced seven training movies, all of which have been used nationally and internationally. He also has been honored with numerous awards from the National Register of Prominent Americans to the International Who's Who in Community Service.

Dr. Youmans then introduced special guest James S. Todd, M.D. of Ridgewood, N.J., who is a member of the AMA Board of Trustees and a member of the AMA Executive Committee of the Board. Dr. Todd addressed the House of Delegates.

Supplemental Council Report

Vice-Speaker Arlen D. Winsky then presided and referred the delegates to the Supplementary Report of the Council as presented by Dr. Richard Bradley.

The MSMA Council met at 3 PM on Wednesday, March 28, 1984 in the Hawthorne IV-V Room of the Marriott Pavilion Hotel in St. Louis, Mo.

On motion, duly seconded, the minutes of the Feb. 4-5, 1984 Council Meeting were approved as distributed.

Mr. Cooper, MSMA executive secretary, reported that PAC regular and sustaining members have increased since last year. He introduced Ms. Jean Duensing, managing editor of Missouri Medicine. At the February meeting, the Council approved the Association filing a motion to attempt to file an *Amicus* brief in the Richardson vs St. John's Mercy Hospital case. The Eastern District Court of Appeals has allowed us to prepare a brief. Dr. Richardson's lawyer has filed an excellent brief and the MSMA legal counsel is in the process of preparing our brief.

The AMA Board of Trustees has nominated Dr. George Thoma for another term on the AMA Council on Medical Education. The Association is still attempting to arrange a meeting with American Physicians Life to discuss various insurance programs with them. Mr. Cooper introduced Mr. Bud Wright and Ms. Lees Weintroob from the AMA staff.

Mr. Cooper then presented the annual reports from the administrators of our insurance programs. In the report from Forrest T. Jones & Company, there was a request to raise the hospital room and board rate from the present $150 to $200 per day under the major medical program. On motion, duly seconded, this change was approved.

Mr. Cooper reported that Mr. Doug Viehland had been a valuable, efficient and hard-working member of the MSMA staff for the past six years. On June 1, Mr. Viehland will become the first executive director of the Boone County Medical Society. Mr. Cooper suggested that perhaps at the June meeting, the Council could convey their appreciation to Mr. Viehland for his efforts for the MSMA in an appropriate manner.

President Youmans read a letter from Mrs. William McPhee thanking the Association and Council for their support in efforts to be nominated as President-Elect of the AMA Auxiliary. Mrs. McPhee should be installed as President of the AMA Auxiliary in 1985.

Dr. Youmans asked each Councilor District to provide him with a name of a member to serve on the Nominating Committee.

Dr. Youmans asked for approval of the appointment of the following to the Editorial Board: Drs. George P. Hoech, Jr.; Jack J. Curtis; Philip C. Anderson; Ernest Lorenc; William D. Bradshaw; Carl Kruse; Jay Marshall, II; Paul J. Gill; Lawrence Gelb; John W. Berry; Stephen Hamburger; Robert Skillman; Elizabeth James; Fred D. Fowler; Thomas Mier; Michael Perry; John C. Hagan, III; F. Thomas Ott; Raymond A. Ritter, Jr.; Bentley A. Nelson; Eugene F. Tucker; R. Don Blim; William F. Clary; MacDonald Logie; Donald R. Germann; Wayne Simril; Charles Bentlage; Richard Craig; Donald Silver; and Gilbert Ross, Jr. He also asked for approval for appointment of the following to the Publication Committee: Jordan W. Burkey, Chairman; Bruce Stoliar, Vice-Chairman; Donald E. Menchetti; Jerry W. Templer; John K. Layle; and Earl Schultz. On motion, duly seconded, the above appointments were approved.

Mrs. Jackie Sanders, president of the MSMA Auxiliary, reported that the "Buckle Up" bumper stickers have been printed and the Auxiliary will have a supply available during the meeting. She thanked the Council members for their help and encouragement during her year as president of the MSMA Auxiliary.

Dr. Youmans then read a late resolution entitled, "Physician Fee Freeze" to be presented to the House from the Council. (This resolution is on the table before you.) After discussion, on motion, duly seconded, this resolution was approved with the deletion of the words, "especially the unemployed, the uninsured and those under Medicare" in lines 22 and 23 of the resolution.

Dr. Youmans read a letter from Dr. Louis Aitken requesting the Association's assistance in having legislation passed that would require protective headgear for junior horsemen. The Council referred this to the Committee on Legislative Affairs.

On motion, duly seconded, the Council went on record as supporting the nomination of Dr. Mohammad Akhter to the AMA Board of Trustees Ad Hoc Committee on Foreign Medical Graduates.

The Florida Medical Association has implemented a $300 per member assessment for a professional liability program.

Gov. Christopher Bond recently appointed Dr. Richard Moore of Cape Girardeau and Dr. C. C. Reynolds of Kansas City to the Board of Registration for the Healing Arts.

Dr. Youmans then read a report that appeared recently in *Healing Arts News* giving the number of disciplinary actions taken per 1,000 against physicians throughout the United States. Missouri ranked fifth on this list with 5.7 actions per 1,000 physicians.

Dr. Barbara Buchanan, speaker of the House, welcomed those present to St. Louis. She indicated that the House had a busy schedule. There are three or four late resolutions.

Dr. T. J. Cooper, chairman of the Missouri Patient Care Review Foundation, reported that the Foundation is working with the five PSROs in the state to develop a proposal to be presented to the federal government for the Foundation to become the PRO for the State of Missouri. Dr. Cooper reported that at some point, evidence would have to be presented that the physicians of Missouri were willing to continue their support of and membership in the Foundation. A resolution will be presented to the House of Delegates asking for suppot of the action of the Foundation in subcontracting with the five PSROs in the State.

Mr. C. C. Swarens reported that a comprehensive legislative report would be presented to the House.

Mr. Ron Ellison asked for Council approval for accreditation of the following two hospitals for the time indicated: Boone Hospital Center, Columbia — 4 years and Columbia Regional Hospital — 4 years. On motion, duly seconded, the Council approved the above accreditations.

Dr. German introduced Dr. James S. Todd, Ridgewood, N.J., a member of the AMA Board of Trustees. Dr. Todd brought greetings from the AMA and congratulated MSMA on their increase in AMA members and PAC members.

(This report was referred to the Reference Committee on Reports of Officers.)

Dr. John Martin reported briefly on PAC and encouraged more MSMA members to join.

NOMINATING COMMITTEE

President Youmans appointed the following members to the Committee on Nominations: *First District,* Charles Mulligan, St. Joseph; *Second District,* C. C. Coors, Moberly; *Third District,* Larry Friedman, St. Louis; *Fourth District,* Paul Walther, St. Charles; *Fifth District,* Victoria Gunn, Jefferson City; *Sixth District,* William Cole, Smithton; *Seventh District,* Ray Caffrey, Kansas City, chairman; *Eighth District,* Stanley Peterson, Springfield; *Ninth District,* Marvin Fowler, West Plains; *Tenth District,* Theodore Glenn, Cape Girardeau; *Student Delegation,* Tom Reardon.

Dr. Robert Thompson, councilor for the Second District, introduced a memorial resolution submitted by the Chariton-Macon-Monroe Randolph County Medical Society entitled "Memorial of Thomas Simpson Fleming, M.D."

Dr. Fleming practiced medicine in Moberly until his retirement in 1981. The resolution stated the following:

Be It Resolved that the Missouri State Medical Association honors the memory of the more than 65 years of dedicated service of Thomas Simpson Fleming, M.D. by adoption of this memorial resolution.

(The resolution was adopted unanimously.)

At the request of the vice-speaker, members of the House of Delegates stood for a moment of silence in memory of the Missouri State Medical Association members who died during the past year. The memoriam resolution is published on page 403.

Dr. Kirby, chairman of the Committee on Constitution and Bylaws, submitted to the House of Delegates the changes to the Missouri State Medical Association Constitution that were introduced during the 1983 Annual Convention. The proposed changes were approved and are published on page 401.

The Speaker referred the delegates to the prefiled resolutions to be considered at the second session and reminded them that additional resolutions could be introduced for a two-thirds vote of acceptance for consideration by the House.

Resolutions introduced at this session and accepted for deliberation at the second session are the following:

Resolution #32 — Physician Fee Freeze
Resolution #33 — Physician Fee Freeze

The Speaker adjourned the first session of the MSMA House of Delegates.

SECOND SESSION

The Second Session of the House of Delegates was called to order at 4 PM on Friday, March 30, 1984 by Speaker Barbara Buchanan.

Dr. Richard Bradley, chairman of the Committee on Credentials, reported that eight officers, 21 councilors and 271 delegates were present and constituted a quorum.

Dr. Edward F. Bare of Northwest Missouri Medical Society reported that inadvertently the recent death of Frank B. Matteson, M.D. had not been reported to the House of Delegates and introduced a courtesy resolution that stated:

Resolved, That the House of Delegates pay personal tribute to Frank Matteson and record such tribute in the minutes of this annual convention.

(The resolution was approved unanimously.)

CONSTITUTION AND BYLAWS

Dr. Dan T. Sullivan, chairman, reported the following considerations of the Reference Committee on Constitution and Bylaws:

Consent Calendar

1. Report of the Committee on Constitution and Bylaws
2. Supplemental Report of the Committee on Constitution and Bylaws
3. Report of the Committee on Legislative Affairs
4. Report of the Ad Hoc Committee on Membership

(There being no objection, the above items were considered as adopted.)

House action on the following resolutions are reported in the section on "Resolutions" on pages 397-400.

Resolution #3 — Formation of Hospital-Medical Staff Section
Resolution #4 — Composition of House of Delegates
Resolution #10 — Athletes' Use of Chemical Substances
Resolution #12 — Barriers to Membership
Resolution #17 — Cooperation
Resolution #18 — Alternatives to Abortion
Resolution #24 — Recommendations for Multidisciplinary Studies
Resolution #27 — Resident Physician Section in the MSMA House of Delegates

Vice-Speaker Arlen Winsky assumed the gavel at this time.

REPORTS OF OFFICERS

Dr. William H. Huffaker, chairman, reported the following considerations of the Reference Committee on Reports of Officers.

Consent Calendar

1. Report of the President
2. Report of the MSMA Auxiliary President
3. Report of the Secretary
4. Report of the Treasurer, MSMA Financial Statement
5. Report of the Executive Secretary
6. Council Minutes of March 20, 1983; May 14, 1983; Aug. 27, 1983; Dec. 17, 1983; Feb. 5, 1984; and March 28, 1984.
7. Report of the Missouri State Medical Foundation (MSMF) Financial Statement
8. Report of the Committee on Planning
9. Report of the Commission on Public Affairs
10. Report of the Committee on Publication
11. Report of the Committee on Medical Legal Affairs

(There being no objections, the above items were considered as adopted.)

House action on the following resolutions are reported in the section on "Resolutions" on pages 397-400.

Resolution #2 — Dues Increase in 1985
Resolution #5 — Reducing Worker Absenteeism
Resolution #6 — Tort Liability Reform
Resolution #7 — Workers' Compensation Laws
Resolution #9 — Professional Liability Reform Measures
Resolution #13 — Professional Liability Insurance Problem
Resolution #21 — Liability and Tort Reform
Resolution #22 — Second Opinion Immunity from Litigation
Resolution #28 — Malpractice Litigation

Speaker Barbara Buchanan assumed the gavel at this time.

RESOLUTIONS

Dr. John K. Layle, chairman, reported the following considerations of the Reference Committee on Resolutions:

Consent Calendar

1. Report of the Commission on Continuing Education and Health Manpower, including the report of the Councilor District Directors on Continuing Medical Education
2. Report of the Committee on the Impaired Physician

(There being no objections, the above items were considered as adopted.)

Dr. Layle then commended the Committee on Medical Economics, Third Party Medicine and Governmental Relations for its efforts to provide information for patients regarding Drug Related Groups as well as the Commission's report on HMOs, PPOs, Hospital Satellite Clinics and Freestanding Emergency Centers and suggested that a summary of this report be published in Missouri Medicine. The Reference Committee recommended that the report of the Commission on Medical Economics, Third Party Medicine and Governmental Relations be adopted.

(The recommendation to adopt the report was approved.)

Referring to the report of the Commission on Interspecialty Medicine, the Reference Committee recommended that Items #1, #3, #4, #5 and #7 be adopted.

(Items #1, #3, #4, #5 and #7 were adopted.)

The Reference Committee recommended that Item #6 not be adopted.

(Item #6 of this report was not adopted.)

Dr. Layle stated that the Reference Committee recommended that a typographical error in Item #2 be changed from "PPO" and be amended to read "PRO."

(This recommendation to amend Item #2 was adopted.)

(Please note that the report of the Committee on Interspecialty Medicine is published on page 394 of this issue.)

House action on the following resolutions are reported in the section on "Resolutions" on pages 397-400.

Resolution #1 — Usual and Customary or Reasonable (UCR Program)
Resolution #8 — Requiring Insurance for Motorcycle Operators
Resolution #11 — Prospective Payment to Hospitals
Resolution #14 — Medicaid: Weekend Admissions
Resolution #15 — Medicaid: Institutionalized Care
Resolution #16 — Managed Health Care Delivery Systems
Resolution #19 — Physician Consensus on Outpatient Surgical and Medical Procedures and Medical Illnesses
Resolution #20 — Prompt Payment of Properly Submitted Insurance Claims
Resolution #23 — Peer Review
Resolution #25 — Payment of In-Home Health Care
Resolution #26 — Registration of Physician Assistants
Resolution #29 — Vaccine Liability
Resolution #30 — Raising Drinking Age to 21 Years of Age
Resolution #31 — Confidentiality of Recorded Proceedings of Hospital Committees

Dr. Hubert Ritter asked that the House reconsider Resolution #11 — Prospective Payment to Hospitals.

(It was voted to reconsider Resolution #11. Dr. Ritter also moved that the "Resolved" in Resolution #11 be amended. Dr. George Bohigian then moved that both Resolution #11 and Dr. Ritter's proposed amendment be referred back to the Reference Committee for reconsideration and to be re-presented to the House of Delegates at the Third Session. Dr. Bohigian's motion was adopted.)

Dr. Richard Bradley, president of MOMEDICO, presented a report on the organization, its growth, progress, services and accomplishments and its goals. He predicted that 1984 will be the "best year" since MOMEDICO was organized.

There being no further business, the speaker adjourned the second session of the MSMA House of Delegates.

THIRD SESSION

The Third Session of the House of Delegates was called to order by Speaker Barbara Buchanan at 7:30 AM on Sunday, April 1, 1984.

Dr. Richard Bradley, chairman of the Credentials Committee, reported that eight officers, 21 councilors and 292 delegates were present and constituted a quorum.

NOMINATING COMMITTEE

As chairman of the Nominating Committee, Dr. Raymond J. Caffrey presented the following slate of officers for the ensuing year:

Vice-President — Dr. Robert R. MacDonald, Jr., St. Louis
Vice-President — Dr. Max Heeb, Sikeston
Vice-President — Dr. Melvin M. Schwartz, St. Louis
Speaker — Dr. Barbara Buchanan, Kansas City
Vice-Speaker — Dr. Arlen D. Winsky, Springfield
AMA Delegate — Dr. Hugh E. Stephenson, Columbia
AMA Delegate — Dr. Francis X. Lieb, St. Louis
AMA Delegate — Dr. George M. Bohigian, St. Louis
AMA Delegate — Dr. Richard P. Bowles, Liberty
AMA Alternate Delegate — Dr. Richard V. Bradley, St. Louis
AMA Alternate Delegate — Dr. Robert R. MacDonald, St. Louis
AMA Alternate Delegate — Dr. Larry G. Piepergerdes, Kansas City
AMA Alternate Delegate — Dr. Martin L. Crow, Kansas City

(There were no nominations from the floor. The above officers were elected by acclamation.)

The speaker recognized Dr. Stanley Peterson of Springfield who nominated Dr. Walter A. German of Springfield as president-elect of the Missouri State Medical Association. The nomination was seconded by Dr. Richard Bradley of St. Louis, Dr. Andrew McCanse of Kansas City and Dr. John I. Matthews of Jefferson City.

(Dr. Walter German was elected president-elect by unanimous consent and was escorted to the podium.)

Dr. Berry Ivy, secretary, announced that the following councilors and vice-councilors had been elected:

First District — Dr. Richard C. Hedges, St. Louis
Vice-Councilor — Dr. Gary A. Dyer, St. Joseph
Third District — Dr. J. Otto Lottes, St. Louis
Dr. Theodore L. Paletta, St. Louis
Dr. Frederick D. Peterson, St. Louis
Dr. David Wilkinson, St. Louis
Vice-Councilor — Dr. Bruce Stoliar, St. Louis
Fifth District — Dr. H. Peter Ekern, Mexico
Dr. Alan L. Braun, Jefferson City
Vice Councilor — Dr. Kenneth L. Rall, Columbia
Seventh District — Dr. James P. Hopkins, Kansas City
Dr. Braham J. Geha, Kansas City
Vice-Councilor — Dr. Robert T. Gibbons, Jr., Kansas City
Eighth District — Dr. Marvin A. Singleton, Joplin
Dr. Francis M. Corry, Springfield
Vice-Councilor — Dr. David W. Hall, Rogersville
Ninth District — Dr. Jack Wiles, West Plains
Vice-Councilor — Dr. O. Martin Hasek, Mountain Grove
Tenth District —
Vice-Councilor — William C. Shell, Sikeston

Speaker Buchanan then turned the gavel over to Vice-Speaker Winsky.

REFERENCE COMMITTEE ON REPORTS OF OFFICERS

Dr. William Huffaker, chairman, reported clarification of the wording of Resolution #6 — Tort Liability Reform, as requested by the House of Delegates at the second session.

The results of this clarification are reported in the section on "Resolutions" on pages 397-400.

REFERENCE COMMITTEE ON RESOLUTIONS

Dr. John Layle, chairman, reported a committee discussion of Resolution #11 — Prospective Payment to Hospitals.

The result of this recommendation is reported in the section on "Resolutions" on pages 397-400.

(Continued on page 387)

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References:
1. Stone PH, Turi ZG, Muller JE Efficacy of nifedipine therapy for retractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary-artery spasm: Experience in 127 patients *N Engl J Med* 302.1269-1273, June 5, 1980

BRIEF SUMMARY
PROCARDIA® (nifedipine) **CAPSULES** For Oral Use

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II. **Chronic Stable Angina (Classical Effort-Associated Angina)**: PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs (See Warnings)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: **Excessive Hypotension**: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers

Severe hypotension and or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA Patients with tight aortic stenosis may be at greater risk for such an event

PRECAUTIONS: **General**: **Hypotension**: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested Close observation is especially recommended for patients already taking medications that are known to lower blood pressure (See Warnings)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA This edema occurs primarily in the lower extremities and usually responds to diuretic therapy With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction

Drug interactions: Beta-adrenergic blocking agents (See Indications and Warnings) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina

Long-acting nitrates PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination

Digitalis Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers The average increase was 45% Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured digitalis toxicity was not observed Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization

Carcinogenesis, mutagenesis, impairment of fertility When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose

Pregnancy Category C Please see full prescribing information with reference to teratogenicity in rats embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0 5% Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication Additionally, the following have been reported muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills and sexual difficulties Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients It remains possible, however, that some or many of these events were drug related Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2% Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0 5% of patients

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy The relationship to PROCARDIA therapy is uncertain These laboratory abnormalities have rarely been associated with clinical symptoms Cholestasis possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41) The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77 F (15° to 25°C) in the manufacturer's original container

More detailed professional information available on request © 1982, Pfizer Inc

Pfizer LABORATORIES DIVISION
PFIZER INC

"I can do things that I couldn't do for 3 yrs. including joining the human race again."

"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[*] as soon as it became available. The change in my condition is remarkable."

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,[1] taking fewer nitroglycerin tablets,[2] doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).

Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

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for the varied faces of angina

PROCARDIA®
(NIFEDIPINE) Capsules 10 mg

*Procardia is indicated for the management of:
1) Confirmed vasospastic angina.
2) Angina where the clinical presentation suggests a possible vasospastic component.
3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page

Motrin®

ibuprofen, Upjohn

600 mg Tablets

MOTRIN 600 mg

More convenient for your patients.

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J-4044 January 1984

SUPPLEMENTAL REPORT OF THE COMMITTEE ON LEGISLATIVE AFFAIRS

Dr. John I. Matthews, chairman, brought to the attention of the House that the most important issue facing physicians is the Medicare mandatory assignment amendment. He reported the mandatory changes that the Medicare mandatory assignment amendment would make. He urged all members of the MSMA to contact their legislators in regard to this bill and introduced the following resolution:

> *Resolved*, That the Missouri State Medical Association expresses its opposition to the proposed mandatory assignment amendment and urges its members to contact their U. S. representatives with expressions of opposition.

(Dr. Matthews' report was approved unanimously.)

There was further discussion in the House about Resolution #30 — Raising Drinking Age to 21 Years of Age.

The results of this discussion are reported in the section on "Resolutions" on pages 397-400.

Installation of Officers

The speaker invited the officers, councilors and vice-councilors to stand in front of the podium where Dr. Berry Ivy, secretary, administered the oath of office.

The speaker invited Pres. James M. Stokes to announce his committee and commission appointments for the 1984-1985 year. Members whose terms had not expired were not mentioned and it is assumed that they will continue to serve.

Committee Appointments

Committee on Constitution and Bylaws — Bennie Till, Poplar Bluff and Roy Gillispie, Branson (terms to expire in 1987); Jo-Ellyn Ryall, St. Louis, *chairman* for 1984-1985.

Committee on the Impaired Physician — Philip J. LeFevre, Springfield and John J. O'Hearne (terms to expire in 1987); William I. Stryker, St. Louis, *chairman* for 1984-1985. Advisory members: Jack Carmody, St. Louis; Joseph Kendis, St. Louis; Hugh Bartlett, Rolla; Warford B. Johnson II, Springfield; Henry F. Domke, Jefferson City; Donald McIntosh, Springfield; and Carl Pearman, Joplin.

Committee on Legislative Affairs — James M. Stokes, St. Louis; Walter German, Springfield; H. Peter Ekern, Mexico; Larry G. Piepergerdes, Kansas City; Don Miller, Jefferson City; Marvin A. Singleton, Joplin; Mrs. Richard P. Bowles, Liberty, president of the MSMA Auxiliary, *Ex Officio;* and John I. Matthews, Jefferson City, *chairman*.

Committee on Planning — Mark Kasten, Cape Girardeau and Otis Moseley, Osage Beach (terms to expire in 1989); Dan T. Sullivan, Springfield, chairman for 1984-1985.

Commission Appointments

Commission on Continuing Education and Health Manpower — George Comfort, Mexico; James Youngblood, Kansas City; Thomas J. Hopkins, Sedalia; Raymond O. Frederick, Clayton; and George X. Trimble, Kansas City, *chairman* for 1984-1985 (terms to expire in 1987).

Commission on Medical Economics, Third Party Medicine and Governmental Relations — Stanley S. Peterson, Springfield; Howard H. Roberts, Joplin; B. A. Moranville, Columbia; Nicholas J. Colosi, Richmond Heights and C. C. Reynolds, Kansas City (terms to expire in 1987); Nicholas J. Colosi, *chairman* for 1984-1985.

Commission on Medical-Legal Affairs — Johannes Schokker, Jefferson City; Donald Kuenzi, Kansas City; George L. Hawkins, St. Louis; Tehmton Mistry, St. Louis; and James E. Mallow, Shawnee Mission, Kan. (terms to expire in 1987); Leonard Davis, Mexico, *chairman* for 1984-1985.

Action Committee to Negotiate With Third Parties and Hospitals — James P. Hopkins, Kansas City; Marvin A. Singleton, Joplin and Stanley S. Peterson, Springfield, *chairman*.

Commission on Public Affairs — Robert Gardner, Cape Girardeau; Shari Dobkin, student at the University of Missouri-Kansas City; Victoria Gunn, Jefferson City; Mohammed Akhter, Columbia; and Gary W. Lamonda, Moberly (terms to expire in 1987); Carl Myers, Platte City, chairman for 1984-1985.

Commission on Interspecialty Medicine — It is the policy for the president of the Association to appoint representatives of the specialty organizations making up the Commission on Interspecialty Medicine as recommended by those specific organizations. Some of these organizations had not provided names of their proposed representatives by this date. Following are appointments of representatives who have been recommended:

Missouri State Allergy Association, Wayne B. Miles, St. Charles; *Missouri Society of Anesthesiologists*, James O. Alyea, Columbia; *Missouri Dermatological Society*, James A. Roller, Columbia; *Missouri Chapter, American College of Emergency Physicians*, Robert Wilcox, Columbia; *Missouri Ear, Nose & Throat Association*, Kenneth A. Buchwach, Kansas City; *Missouri Academy of Family Physicians*, James E. Campbell, Macon; *Missouri Society of Internal Medicine*, Michael Perry, Columbia; *Missouri State Neurosurgical Society*, George E. Mendelsohn, St. Louis; *Missouri OB-GYN Society*, Greg Starks, Kansas City; *Missouri Ophthalmological Society, Inc.*, Robert F. Tobin, St. Joseph; *Missouri State Orthopaedic Association*, William Beckett, Jr., Columbia; *Missouri Society of Pathologists*, Thomas M. Sodeman, St. Joseph; *Missouri Chapter, American Academy of Pediatrics*, David L. Simon, St. Louis; *Physical Medicine & Rehabilitation*, Charles Kelly, Kansas City; *Missouri Psychiatric Association*, Richard Quick, St. Louis; *Missouri Radiological Society*, Anthony A. Bernie, St. Louis; *Missouri Chapter, American College of Surgeons*, John Christy, Poplar Bluff; *Missouri State Surgical Society*, John T. Critchlow, Mexico; *Missouri Thoracic Society*, John Goheen, Kansas City; *Missouri Urological Society*, Jay L. Milne, Springfield; *Student Member, Ex Officio*, Michael Boland, Columbia.

Judicial Committee

The following members of the newly created Judicial Committee were nominated by Dr. Stokes and were elected by the House of Delegates:

Hugh E. Stephenson, Jr., Columbia (one-year term); E. T. Hansbrough, Poplar Bluff (two-year term); Ronald A. Youmans, Kansas City (three-year term); Richard V. Bradley, St. Louis (four-year term); and Donald McIntosh, Springfield (five-year term).

It was voted to hold the 127th Annual Convention on April 10-14, 1985 at the Hyatt Regency Hotel in Kansas City; the 1986 Annual Convention in St. Louis; and the 1987 Annual Convention at the Lake of the Ozarks. Dr. William Medlicott of Jackson County Medical Society invited the Association to hold its Annual Convention in Kansas City in 1988.

The speaker adjourned the 126th Annual Convention of the MSMA House of Delegates.

Summary of Council Minutes

Meeting of March 20, 1983
Tan-Tar-A, Osage Beach

Dr. Walter A. German was elected chairman of the Council and thereby became the presiding officer. Dr. H. Peter Ekern was elected vice-chairman; Dr. Jay Meyer, MSMA treasurer; and Dr. H. Berry Ivy, MSMA secretary.

Meeting of May 14, 1983
Ramada Inn, Jefferson City

The Council voted to have the MSMA file an *amicus curiae* brief (friend of the court) in two court cases that were scheduled to be heard in the Missouri Supreme Court.

The first case was a wrongful death suit against two Kansas City physicians and a Kansas City hospital. The case involved interpretation of Missouri's wrongful death statute that authorizes the filing of a lawsuit on behalf of an individual who, had he lived, would have been able to sue for negligence. The case involved a stillborn infant and the issue of whether a once viable fetus which is stillborn may seek relief under the wrongful death statute.

The second case involved a lower court ruling that found that nurse practitioners at a Cape Girardeau family planning clinic were performing the unauthorized practice of medicine by prescribing medications and conducting pelvic examinations.

Dr. German, Council chairman, announced that Dr. Andrew McCanse, Kansas City, had been appointed to fill the unexpired term of Dr. Robert A. Slickman as AMA delegate. Dr. Martin Crow, Kansas City, was appointed to fill the unexpired term of Dr. McCanse as AMA alternate delegate.

The Council approved purchasing a new computer system to meet the Association's current needs and growing demands.

It was approved to continue negotiations with GTE for the MSMA to become the marketing agent for the AMA/GTE telenet in Missouri.

The establishment of a risk management program was approved.

The Council voted to investigate the feasibility of providing a $10,000 term life insurance policy at no cost for all new members for their first year as members.

It was approved to co-sign a $25,000 note for the Missouri Health Data Corporation.

Permission was granted to the Missouri Patient Care Foundation to pursue the PRO contract for Missouri.

Meeting of Aug. 27, 1983
Holiday Inn East, Columbia

An Ad Hoc Committee on Membership was established to improve recruitment techniques for the almost 3,000 Missouri physicians who are not MSMA members. Dr. James Hopkins, Kansas City, was appointed chairman and charged with developing ideas to recruit special groups (women physicians, black physicians, students, etc.) and replacing present membership barriers with membership incentives.

In regard to the 126th MSMA Annual Convention to be held in St. Louis, the Council approved moving the Convention from the Breckenridge Concourse to Marriott's Pavilion Hotel due to blueprint changes at the Breckenridge that would not accommodate the space required by the MSMA.

Several other changes affecting future MSMA Annual Conventions were recommended by the Commission on Continuing Education and Health Manpower and were adopted by the Council. These changes include replacing the Friday morning General Plenary Session with two sets of four concurrent 40-minute workshops with the sets being separated by a 10-minute break.

Plans for two new seminars for MSMA members in 1984 were approved. The seminars named were (1) Medical Assistant programs and (2) Computers.

Also approved were plans for a joint meeting between two members each from the MSMA, MSMI and MOMEDICO. The members of this group were charged with forwarding recommendations to the Council as how to best retire MSMA's debt to MOMEDICO.

A letter was sent to the AMA Board of Trustees recommending the appointment of Dr. Marvin Singleton, Joplin, to the AMA Council on Legislation. A second letter was sent to the AMA Board of Trustees nominating Dr. Barbara Buchanan, Kansas City, to the AMA Council on Long-Range Planning and Development.

The production of several publications was approved: a medical records brochure to be sold to physicians at cost for distribution to patients; an office checklist pamphlet for physicians beginning practice in Missouri; a public relations brochure for each MSMA member; a poster series and slide presentation aimed at student membership; and membership certificates.

A request from the state's physical therapists was read which asked the MSMA to help them gain approval of independent practice without the necessity of a physician's prescription. The letter indicated that physical therapists believe they are better trained than those persons who now provide such treatment independently and they will more likely refer cases to physicians.

Meeting of Dec. 17, 1983
Hilton Inn, Columbia

A proposed $25 membership dues increase was approved. The increase, if approved by the full MSMA House of Delegates at the 126th Annual Convention, would go into effect in 1985. Currently, the Missouri State Medical Association has the lowest membership dues in the nation. The increase would place the MSMA's dues in a tie for the 49th lowest slot.

A resolution was approved allowing the Association's investment account, held by the Mercantile Bank of St. Louis, to be used to collateralize the Association's debt to MOMEDICO.

After lengthy discussion, Council members approved submitting a resolution to the MSMA House of Delegates charging the MSMA to investigate the need for establishing a statewide hospital medical staff section. If approved, the resolution would also require the MSMA to study alternative methods of implementing this action, as well as the cost involved in such an effort.

It was also reported during the meeting that the Association's preliminary 1983 audit had been completed. There were 6,427 members of MSMA in 1983, a net increase of 231 over 1982. The majority of the gain was an increase in student members; 141 of the new members in 1983 were students and 90 were physicians. In addition, approximately 375 new student members will be added to the membership rolls in

1984.

Membership in the Missouri Medical Political Action Committee (MMPAC) also increased in 1983 with 1,581 regular members and 161 sustaining members, a gain of 175 members over the previous year.

Dr. William Bradshaw, chairman of the MSMA Commission on Continuing Medical Education, reported that the Commission had met and approved five organizations for full accreditation for a four-year period (St. John's Medical Center, Joplin; Faith Hospital, Creve Coeur; Greene County Medical Society, Springfield; DePaul Community Health Center, Bridgeton; and St. Joseph Health Center, St. Charles) and had approved one hospital (St. Joseph Hospital of Kirkwood) for a three-year period.

A report of the Missouri State Medical Foundation (MSMF) revealed that since the establishment of the MSMF in 1960, Missouri physicians have contributed more than $1,812,110 toward 2,186 loans to 917 deserving medical students.

In September, 1983, the MSMF Loan Committee approved a loan package of $222,000, a 12% increase over fiscal year 1982.

Dr. Walter German, chairman of the Council, accepted the resignation of Councilor Donald McIntosh. Dr. McIntosh moved from his previous home and councilor district in Kansas City to begin work in Springfield.

In other actions, the Council approved supporting Dr. George Thoma's bid for re-election to the AMA Council on Medical Education. The Council also approved supporting Dr. Melvin Kasten's effort to seek appointment to the AMPAC Board of Directors.

The Council meeting concluded with a report of the meeting between the MSMA Planning Committee of the MSMA Council. The meeting was held to evaluate the Association's progress to date in meeting its objectives and to define objectives for 1984. The following objectives, listed in priority order, were adopted:

1. Membership
2. Insuring care for patients.
3. Education of public and physicians
4. Evaluate effects of DRGs
5. Hospital medical staff section
6. Physician placement

Meeting of Feb. 5, 1984
Holiday Inn East, Columbia

The Council approved the MSMA's attempts to intervene and file an *amicus curiae* in the case of *William R. Richardson vs. St. John's Mercy Hospital*, a case involving hospital medical staff privileges.

An MSMA membership report was released that gave a breakdown of membership by county society and councilor district. The figures indicated a slowing rate of membership within metropolitan areas and an opposing trend in outstate areas.

It was announced that Physician Assignment Rate Lists have been prepared to guide beneficiaries in selecting physicians. The lists are available in all Social Security offices and many senior citizen organizations have obtained the lists.

Dr. Glenn Eberhardt, assistant dean at the University of Missouri-Kansas City School of Medicine, announced that Dr. James Mongan, executive director of Truman Medical Center and a MSMA member, was recently appointed to the Task Force from the Congressional Office of Technology Assessment. The Task Force has been selected to aid in monitoring DRG programs.

Dr. William D. Bradshaw, acting dean of the University of Missouri-Columbia School of Medicine, reported construction of the Health Sciences Library is ahead of schedule and the building should open prior to June, 1985. Dr. Bradshaw also indicated that the school is currently conducting a joint study with the University of Missouri-Kansas City School of Medicine to compare cost differences for medical education on the two campuses.

Dr. Hubert A. Ritter, AMA Trustee, brought the Council up-to-date on various activities of the AMA. He indicated he had just returned from a Board meeting in San Francisco where they discussed important factors including the AMA's role in interprofessional relationships; new methods of funding medical care; licensing of allied health personnel; funding and number of residency programs, particularly as they relate to FMGs' increasing challenges of commercialism in medicine; and care of the aged.

Dr. Richard Bradley, president of MOMEDICO, briefed the Council on current activities of MOMEDICO. MOMEDICO recently increased premiums by 25% of the base level; has held several malpractice prevention seminars throughout the state; has had 700 total claims since its inception in 1978 and of those claims 81% have been closed without paying anything other than expenses. MOMEDICO has been to court 20 times and has paid only on judgments against physicians in three cases. They are working on a program to educate physicians to admit errors early (if evidence so indicates). If done, most of these cases can be settled out of court within 90 days, which benefits the patient, the physician and the insurance company.

Dr. John I. Matthews, chairman of the Committee on Legislative Affairs, reported that a state senator had been preparing to sponsor a bill legislating a breast cancer informed consent law. However, the MSMA has persuaded the senator to turn the matter over to the MSMA and the American Cancer Society. The MSMA Commission on Interspecialty medicine will be responsible for developing the proper language of a brochure that will explain the advantages and disadvantages of the various methods of treatment for breast cancer. The brochures will then be distributed to physicians free of charge. Physicians may then give the brochures to breast cancer patients.

Dr. Jordan W. Burkey, Springfield, was reappointed to serve as editor of Missouri Medicine.

The Council approved the submission of the following two resolutions to the 1984 House of Delegates: Resolution #2 — "Dues increase in 1985" and Resolution #3 — "Formation of Hospital-Medical Staff Section."

Dr. T. J. Cooper reported that the guidelines for implementation for PROs have not been published as yet, but they should be available by the end of February. At that time, the MSMA will have a 60-day period in which to file its proposal to implement these guidelines. HCFA will then have an additional 60 days in which to make a decision as to which organization and/or organizations will be granted PRO contracts.

The Missouri Patient Care Review Foundation is attempting to work with the five existing PSROs to subcontract with the Foundation to provide the actual review process. There has been some controversy regarding this proposed method of operation. However, the Association will continue to negotiate with the PSROs to settle these differences. A motion was made and seconded that the MSMA authorize the Foundation to proceed under the terms of the oral agreement that was made at the meeting of the liaison committee. The agreement offers each of the present five PSROs the option of subcontracting with the Foundation for the purpose of review with the agreement that each subcontracting PSRO will have a corresponding seat on the Board. The motion was unanimously adopted.

Reports of Committees and Commissions

REPORT OF THE COMMITTEE ON PUBLICATION

The 80th Volume of Missouri Medicine was completed with the December, 1983 issue. During the year, 12 issues were printed and distributed. Ten of these issues contained scientific articles, special articles and features, organizational reports, monthly messages from the presidents of the MSMA and the editor, news from Missouri medical schools, listings of new members and Physician's Recognition Awards recipients, news items of interest to members of the medical profession and MSMA "Progress Notes."

The July issue presented a summary of the meetings and actions taken by the House of Delegates at the 125th Annual Convention. The annual Directory-Membership Roster was published in August. The February and August issues included a directory of medical specialty organizations in Missouri.

The Executive Committee reappointed Jordan W. Burkey, M.D. of Springfield as editor and J. Bruce Stoliar, M.D. of St. Louis as associate editor.

There were two special issues of the Journal. The scientific articles in the June issue were contributed by members of the faculty of the University of Missouri-Columbia and the scientific articles in the October issue were contributed by members of the faculty at the University of Missouri-Kansas City.

During the year, 43 scientific articles and eight special articles and features were published. Most were written by Missouri authors.

The editors wish to express appreciation to all who submitted scientific manuscripts and to all other individuals, institutions and organizations for their valuable contributions. This especially includes the administrations, faculties and publications departments of the University of Missouri in Columbia and Kansas City, St. Louis University, Washington University and Ellis Fischel State Cancer Center.

The complete financial report for the 1983 Journal is included in the financial statement of the Missouri State Medical Association. The report is published in the March, 1984 issue of Missouri Medicine and is included in the Delegates' Handbook. At year's end, journal circulation was 7,158.

Jordan W. Burkey, *Chairman*
J. Bruce Stoliar, *Vice-Chairman*
Donald E. Menchetti
Jerry W. Templer
John K. Layle
Earl R. Schultze

REPORT OF THE COMMISSION ON CONTINUING EDUCATION AND HEALTH MANPOWER

The Commission met on May 28, 1983 to review critiques from the individual specialties sponsoring scientific programs during the 125th Annual Convention. Each specialty is to be commended for their efforts in developing scientific programs that attracted 1,011 registrants.

There has been a continual decline in the attendance during the Friday General Plenary Session. To generate a renewed interest in this session, it was recommended that the General Plenary Session be replaced with four concurrent workshops. These workshops will utilize the same 90 minutes allotted for the General Session. It was also recommended that in lieu of the Annual Banquet, that Saturday evening's program begin with the Presidential Inauguration, followed by a reception. MSMA members and guests would then be free to have dinner on their own.

William D. Bradshaw, *Chairman*
Christopher H. Jung
Wilbur A. Mullarky
W. Wayne Boydston
Hugh Lundman
Stephen A. Brunton
James J. Mongan
Robert H. Ramsey
J. Michael Conoyer
Hirematiiada Jayanandaiah
George D. Comfort
Larry E. Benson
Ronald T. Hill
George X. Trimble
Raymond O. Frederick

REPORT OF THE COMMITTEE ON CONSTITUTION AND BYLAWS

Your Committee has reviewed and submits to the House of Delegates the attached changes in the Missouri State Medical Association's Constitution and Bylaws which were introduced at the 1983 Annual Convention. These proposed changes were published in Missouri Medicine and sent to each component society as required by the Constitution and Bylaws.

Since the proposed changes deal with two entirely separate subjects, your Committee recommends separate votes on the proposals.

Proposal No. 1 would change Article IV of the Constitution to permit Deans of each medical school located in Missouri, who are members of the Missouri State Medical Association, to serve as Delegates-at-Large to this House.

Proposal No. 2 recommends changing Article V and VI of the Constitution so that a Judicial Council would be established within the framework of the Missouri State Medical Association to replace the Council as the Association's Judicial body.

If these Constitutional changes are accepted, the Bylaw changes may be voted on immediately since they have been before this body more than the required one day.

Again, the Committee recommends a separate vote on the proposed Bylaw changes.

Proposal No. 3 would change Chapter III to add the Deans as Delegates-at-Large.

Proposal No. 4 would set forth in Chapter XI the rules and regulations implementing the establishment of a Judicial Council.

Kirby L. Turner, *Chairman*
Roy Gillispie
Jo-Ellyn M. Ryall
John Hunkeler
Thomas Sodeman

REPORT OF THE COMMITTEE ON THE IMPAIRED PHYSICIAN

The committee met on Nov. 30, 1983 to discuss the level of activities and to formalize recommendations to be presented to the MSMA Planning Committee.

One of the major concerns of this committee is that a poor rate of case findings continues to exist. During the period of Jan. 1, 1983 to Dec. 1, 1983, there were eight referrals reported, a decline from the same period in 1982.

While the activities of this committee have not been at the level anticipated, they have had an impact on Missouri physicians. Physicians aware of the program are more inclined to refer their colleagues with an impairment and a greater number of physicians are also seeking treatment on their own.

The committee discussed the recommendation of the 1983 House of Delegates for funding of a part-time medical director for the Impaired Physician Program. It was agreed that it will be difficult to find an individual for the part-time position with the unusual background and expertise required for this position. It was a unanimous decision that this position should be funded for a full-time medical director. This position is an essential step in creating a truly effective program.

Prerequisites for the Medical Director are as follows:

1. MSMA member.
2. Experience in Alcohol and Drug Dependency Rehabilitation
3. Ten years of medical practice.

Position: Medical Director, Missouri Impaired Physician Program

Job Description:

- Be responsible for all administrative activities of the Impaired Physician Program.
- Be responsible for developing a panel of confronters.
- Meet with every physician referred to the Impaired Physician Program.
- Visit all licensed treatment facilities in Missouri.
- Maintain contact with physicians following completion of treatment program.
- Appear before each medical staff in Missouri hospitals seeking their cooperation and support.
- Develop a closer liaison with the Missouri Hospital Association, the Missouri Association for Osteopathic Physicians and Surgeons and other appropriate state agencies.
- Contact pharmaceutical companies as to feasibility of establishing a treatment loan fund.
- Explore avenues to utilize physician services prior to reentry into private practice of medicine.
- Explore possibilities of obtaining grants.

This committee has accomplished the following since January, 1983:

- Developed a closer working relationship with the Board of Healing Arts.
- Developed a working relationship with Missouri hospitals.
- Developed protocol to follow-up on physicians being referred to the program.
- Adopted guidelines for after care.
- Revised the list of MSMA members willing to serve as confronters.

The following goals have been formulated for 1984:

- Develop a well functioning Advocacy Program to assist physicians returning to the practice of medicine.
- Develop In-Hospital Impaired Physician Programs.
- Expand Impaired Physician Program to assist medical students and residents.
- Explore the possibility of the Impaired Physician Program being responsive to memberships of both the Missouri State Medical Association and the Missouri Association for Osteopathic Physicians and Surgeons.

To respond more effectively to individuals calling the Impaired Physician Program, the phone will be answered during working hours rather than utilizing an answering device. This device would only be used after normal working hours.

William T. Stryker, *Chairman*
David L. Ohlms
G. R. Reinhardt
Philip J. LeFevre
John J. O'Hearne
John P. Carmody
Joseph B. Kendis
Hugh C. Bartlett
Warford B. Johnson, II
Henry Domke

REPORT OF THE COMMITTEE ON LEGISLATIVE AFFAIRS

As this Annual Convention gets underway, the Missouri General Assembly enters its final month of the current Session . . . a month that will be characterized by maneuvering, fast action, delaying tactics and compromises. With this in mind, it is impossible to predict the outcome of most of the measures being considered.

The current Session has been rather typical — that is not to say uneventful — for the medical profession. Again this Session, more than 150 bills have been introduced that, in one way or another, would affect your practice or your patients. Your Association has presented testimony on more than 25 of these bills and worked with legislators on several more to correct language or offer amendments.

In response to the nationwide concern about the increasing cost of health care, a new issue was introduced before the General Assembly this year. Language in House Committee Substitute for House Bill 1296 and Senate Bill 671 would recognize the right of third-party payers to form Preferred Provider Organizations . . . a right, by the way, that the payers already have. These measures are viewed as a method to encourage formation of PPOs and, thus, competition. As originally written, these bills would have permitted the formation of "Exclusive" Provider Organizations, but the MSMA and other provider groups worked with the bills' sponsors to delete those provisions. The Association is closely monitoring the progress of these bills to insure freedom of choice for patients and physicians.

A package of four bills dealing with medical professional liability were introduced this year. These bills would (1) place a cap on the amounts of awards; (2) establish a contingent fee percentage allowed to be charged by attorneys; (3) allow awards to be paid in periodic payments; and (4) provide for consideration of collateral sources of payment. Although representatives of malpractice insurers, the MSMA, hospitals and the Missouri Division of Insurance expressed support for the bills as at least a start in attempting to solve the skyrocketing costs of malpractice coverage (which contributes to the rising costs of health care), the package has received little consideration from the legislators.

This lack of sympathy in the area of professional liability is not unique to Missouri. A survey of the other states shows that very little action has been taken to ease the malpractice insurance crisis since 1975-1976. We are closely watching activity in Florida where the Florida Medical Association has assessed each member $300 to provide funding for a $3 million campaign to change tort law in that state. The FMA reportedly spent about $750,000 last year in an unsuccessful attempt to effect similar changes in the statutes.

Again this Session, allied health personnel have come forward in attempts to either gain licensure or expand their scope of practice. The most active groups this Session have been the physician assistants and the physical therapists. The physician assistants launched a concerted drive to gain licensure in Missouri. The MSMA, which has opposed licensure of additional health care professionals, likely has derailed the effort this Session. The physical therapists expressed their desire to change their practice act to permit them to practice independent of a physician's prescription. Your Association worked with the PTs and other providers to develop language that would permit the therapists to participate in screening activities while maintaining the requirement of physician referral on individual patients. This bill will not be passed this year, but it could be amended onto another bill.

Bills addressing the "Baby Doe" issue were again introduced and received highly emotional support from those who fear that parents and physicians are allowing severely handicapped infants to die merely because they are handicapped. Your Association again argued that decisions on severely handicapped infants should be the responsibility of the parents in consultation with their physicians and other professionals on the medical care team. Although the two bills dealing with this issue will not be reached, similar provisions could be amended onto other bills currently before the General Assembly.

The above are but a few of the legislative issues your Association has worked on this year. The list seems to grow annually.

Your Committee would remind you that it is the responsibility of all physicians to become aware and involved in the legislative process if medicine is to be successful in countering efforts to control the practice of medicine and the treatment of your patients.

It is quite easy to assume that someone else will fight the battles before the Legislature and, somehow, maintain the rights we now enjoy. Such assumptions are incorrect!

Legislators are elected . . . and they react to the opinions of their own constituents. If they do not receive the opinions of physicians in their area on medical issues, they can be expected to listen to those constituents who do contact them. Your Committee urges you to get to know your legislators and let them know how you feel on issues! We repeat a statement from last year's report:

"If physicians chose not to be heard . . . they won't be!"

John I. Matthews, *Chairman*
Ronald A. Youmans
James M. Stokes
Walter A. German
H. Peter Ekern
Larry G. Piepergerdes
Marvin A. Singleton
Donald P. Miller
Mrs. Jackie Sanders, *Ex Officio*

REPORT OF THE AD HOC COMMITTEE ON MEMBERSHIP

The Ad Hoc Committee on Membership was appointed by the president with names being submitted by councilors from each district. The first meeting of the Committee was held in December and further meetings will be scheduled in the future.

The Committee is charged with determining the membership potential in Missouri, developing methods to recruit "special" groups of physicians, i.e., women, FMGs, residents, etc., improving our efforts in recruiting and retaining all members and investigating "barriers" to membership that now exist.

Although much of our information is still in the preliminary stage, a survey of component medical societies did reveal several "barriers" that the Committee felt could be addressed by the House of Delegates at this Convention. Therefore, the Committee submitted a Resolution illustrating some of the "barriers" for your consideration.

A further report will be available to the House at our next Annual Convention.

James P. Hopkins, *Chairman*
Richard C. Hedges
J. Will Fleming
Robert R. MacDonald, Jr.
Theodore Paletta
William R. Richardson
James Carpenter
John T. Critchlow
Kenneth L. Rall
Jerry Meyer
Marcus McCorcle
Larry Marti
Max A. Heeb
Ann Hellerstein

REPORT OF THE COMMITTEE ON PLANNING

The Committee on Planning held a joint meeting with the Council in December, 1983 to evaluate progress on objectives established by our group in 1982 and endorsed by the MSMA House of Delegates in April, 1983. Also, it was the intent of the group to establish definite objectives for the coming year.

Progress reports on current objectives were generally satisfactory. The group then proceeded to establish objectives for 1984. The following objectives were proposed in the order listed.

Objective No. 1 — Membership

(a) Consider lumping local and state dues.
(b) Document "why" members drop out or do not join.
(c) Establish a membership committee in each local society.
(d) Conduct a special, publicized membership drive.
(e) Improve participation by Resident physicians.

Objective No. 2 — Insuring Care for Patients (Medicaid)

a) Need to insure that all patients get care.
(b) Publicize the Deferred Compensation option.
(c) Educate patients on Medicaid benefits/limitations.
(d) Seek adequate drug formulary.
(e) Get more physicians to treat Medicaid patients to spread the utilization.
f) Remind physicians to "think patient," not payment.
g) Work to solve administrative problems.

Objective No. 3 — Education of Public and Physicians

(a) Show physicians what is available through the MSMA, i.e., CME, risk management and practice management workshops, AMA-GTE, etc.
(b) Consider buying ads to educate public.
(c) Encourage physicians to use "letter-to-the-editor" columns.
(d) Have physicians talk before civic clubs.

Objective No. 4 — Evaluate Effects of DRGs

(a) Prepare comprehensive report for 1985.
(b) Meanwhile, work to educate physicians, patients and medical students on aspects of DRGs.

Objective No. 5 — Hospital Medical Staff Section

(a) Educate physicians on state level to increase participation.
(b) Assist individual hospital staffs.
(c) Impress on staffs the importance of looking at bylaws now, not when a problem arises.

Objective No. 6 — Physician Placement

(a) Seek statistics.
(b) Expand and improve the MSMA's placement program.

Dan T. Sullivan, *Chairman*
Sam L. Farrell
Robert R. Stuber
David Glover
Carl R. Kruse
L. G. Mayuga
George M. Bohigian
Fred D. Fowler
Melvin C. Kasten
Gerald Hoxworth

REPORT OF COMMISSION ON MEDICAL ECONOMICS, THIRD PARTY MEDICINE AND GOVERNMENTAL RELATIONS

The Commission met on July 16, 1983 and via conference call on Jan. 14, 1984. Medicaid problems were discussed at both meetings. In July, a representative of Medicaid described recent successes of the program, including enrollment into the deferred compensation program and resolving problems with the recipient eligibility files. The Commission suggested that the Medicaid Advisory Committee be asked to review in-office procedures for ophthalmology and consultations for office/hospital visits on the same day. In January, the Commission received a report on expenditures/appropriations for physician services, a description of recent cost containment measures and information on requested funds by Medicaid for increased utilization of physician services during the next year.

In July, Mr. Ken Topfritzhofer of St. Louis Blue Shield described recently implemented second opinion and ambulatory surgery programs for Chrysler employees. Mr. Topfritzhofer was invited to provide an update at a future meeting and to work closely with the St. Louis Metropolitan Medical Society in the interim.

In response to resolutions approved at the 1983 MSMA Annual Meeting, the Commission received and approved reports on delays in compensation payments by government carriers, payment for cognitive services and efforts to provide the physician community information on their obligation to provide health care for the poor. The Commission has sent copies of these reports to the sponsors of these resolutions and would be pleased to forward a copy to any MSMA member so requesting a copy.

The Commission received a written report from the Ad Hoc Committee to Review and Comment on Missouri Community Health Centers and verbal reports from the Action Committee to Negotiate with Third Parties and Hospitals. At both meetings, the Commission received information on implementation of TEFRA regulations, including Diagnosis Related Groups and Professional Review Organizations. In January, the Commission specifically requested that a press release be prepared explaining to patients what they can anticipate as a result of DRGs and how they can cope with the resulting problems.

The Commission was unable to receive the annual report of "Study of HMOs, PPOs, Hospital Satellite Clinics and Freestanding Emergency Centers" because of delays in receiving information. This report will be presented to the MSMA Council at their March meeting and will be available to MSMA members attending the Annual Convention.

Fred W. Hahn, *Chairman*
Pierre W. Keitges
Arturo C. Montes
Frederick L. Thompson
C. R. Talbert
Gerard M. Callaghan
Linda Fisher
Joseph A. Kahn
John K. Layle
M. H. Choudhury
Stanley S. Peterson
Howard H. Roberts
Thomas H. Hendren
Nicholas J. Colosi
Edwin J. Twin

REPORT OF COMMISSION ON MEDICAL-LEGAL AFFAIRS

The Conjoint Medical-Legal Committees of the Missouri State Medical Association, Missouri Association of Osteopathic Physicians and Surgeons and The Missouri Bar met on Jan. 21, 1984 in Columbia. The members included seven representatives of the MSMA, three representatives from MAOPS and six representatives from The Missouri Bar.

A very valuable and long-standing activity of the Commission is the review of interprofessional problems. This year was no exception. One incident involved a physician who received a letter of assignment from a patient and so notified the attorney. The committees recommend that the attorney be informed that he should have recognized a moral obligation to insure that the physician's fees were paid by his client. Other incidents described included a pending lawsuit over access to records, advertising by physicians to serve as expert witnesses on a contingency fee basis and the propriety of a specialist testifying on matters outside his specialty. While the committees expressed concern over these instances, the committees are relatively powerless to resolve these issues. Three positive incidents were described when individuals or local committees utilized the Code.

Professional liability issues are another frequent topic of the Committees. Four bills pending before the Missouri General Assembly were discussed with the following results. SB 462 (Cap on Awards) and SB 561 (Limits Contingency Fees) were found to have inherent problems and the respective associations were urged not to support their passage. SB 571 (Collateral Sources) and SB 639 (Structured Award) were concepts that have merit, but given the specific language, it was decided no recommendation would be made at this time. Physicians described increases in professional liability premiums, number of cases filed and sizes of awards over recent years. These trends are of rising concern to physicians.

Other legislation of interest to both professions were HB 1161 (Right to Die), which was given support, and SB 579 (Living Wills), which was considered more complicated, broader in scope and less likely to pass. Both bills have merit in that they protect the physician in a very difficult situation.

Members received recently printed copies of the Interprofessional Code. The Committees were urged to remind their members of the existence of the Code and to distribute it widely.

Following the conjoint meeting, the MSMA Commission members met separately to discuss several issues. Dr. Russell reported that MOMEDICO is doing fairly well but has not been exempt from trends noted earlier in the meeting, including premium increase of 25%. The company is still making efforts to become licensed in Kansas.

The Commission discussed and voted to offer a resolution at the upcoming MSMA House of Delegates meeting regarding a tort liability coalition. It would be a coalition of physicians, businesses, insurance firms and attorneys that would jointly develop and seek passage of a reform of Missouri tort liability laws.

Garth S. Russell, *Chairman*
Ben T. Albano
Fred H. Thornton
Frank Ostapowicz
George L. Hawkins, Jr.
Bernard Draper
John J. Krautmann
William J. Medlicott
Edward F. Bare
David M. Reisler
John P. Roberts
Philip R. Fogle
Allen L. Spitler
Raymond Hartwig
Leonard Davis

REPORT OF THE COMMISSION ON INTERSPECIALTY MEDICINE

The Commission met on Jan. 5, 1984 to formulate recommendations for the Missouri State Medial Association regarding items submitted by specialty representatives.

Item #1. Develop a plan to assist physicians in hospitals that go out of business.

Recommendation: To assist physicians relocating in Missouri as well as those wanting to find a desirable area to practice, the MSMA Placement Program should continue to disseminate information on practice opportunities.

Item #2. The implications of HMOs, PPOs, PROs and DRGs.

Recommendation: Letters supporting the Foundation in its efforts to become the PPO for Missouri should be forwarded to the MSMA Headquarters Office or directly to the Foundation. Part II of the Commission on Medical Economics five-year study will be made available to specialty representatives.

Item #3. In-hospital Impaired Physician Programs.

Recommendation: MSMA Committee on the Impaired Physician to pursue educational activities stressing causes of impairment and to assist interested medical staffs in formulating In-Hospital Impaired Physician Programs.

Item #4. Interference with the physician/patient relationship by government agencies, hospital administrations and insurance companies.

Recommendation: That MSMA's Public Education Program address these sensitive and critical issues to improve physician/patient communication.

Item #5. Overlapping turf of various specialty groups.

Recommendation: The MSMA should provide full support for hospital medical staffs implementing bylaws that provide staff privileges based on acceptable experience and training to assure the best possible health care for Missouri citizens.

Item #6. The problems of training excessive numbers of physicians in particular specialties.

Recommendation: That the MSMA go on record as supporting a reduction in the number of foreign graduates competing for residency programs in the U.S.

Item #7. Encroachment by optometry and other nonphysician groups.

Recommendation: That the MSMA refute any attempt on the part of nonphysicians in treating medical conditions that are beyond the scope of their experience and training. The Commission also recommended that the MSMA provide staff resource to assist specialty groups with activities that will enable them to be responsive to member needs. This may include specialty concerns regarding legislative activity, physician placement, assistance in marketing, practice management workshops and other executive and secretarial assistance as needed.

R. R. Hannas, *Chairman*
Phillip Korenblat
Gregory F. Janeczko
Lewis C. Vollmar, Jr.
Kenneth A. Buchwach
W. Wayne Boydston
Charles Jobe
George E. Mendelsohn
Elwyn M. Grimes
Harry L. Knopf
Michael S. Clarke
H. Neal Grannemann
Donald L. Thurston
Otakar Machek
Richard T. Quick
Anthony A. Berni
Anthony E. Fathman
Cyril J. Costello
John R. Goheen
Milton B. Ozar

REPORT OF THE COMMISSION ON PUBLIC AFFAIRS

The Commission made several additions to the Association's public relations program this year. The Commission recommended the production and distribution of a Medical Records brochure. Physicians may purchase the brochures from the MSMA at cost and use them as a public relations tool for their own practice by providing them for patients.

Also as result of a Commission recommendation, the Association is producing an Office Checklist brochure, which will be provided to residents and physicians beginning medical practice in Missouri.

A third brochure, highlighting helpful communication tips for any physician and office staff, was sent to all 1984 MSMA members.

In addition, all 1984 MSMA members, upon request, received a new membership certificate — another Commission recommendation.

In an effort to encourage more student membership and involvement in the MSMA, the Commission also recommended the development of a series of promotional posters geared solely at the medical student population. These posters will be displayed in medical student lounges and libraries.

Orders for more than 15,000 patient surveys came to the Association as a result of a Communications packet (which included a sample patient survey) that the MSMA mailed to members in March, 1983.

In addition, the Commission maintained several continuing public relations programs for the Association. In 1983, 24 "Medical Messages" newspaper columns were provided to 285 Missouri newspapers; 16 medical-related public service announcements were provided to 150 radio stations and four television public service announcements were provided to each television station in Missouri.

Elias M. Throne, *Chairman*
Barry J. Bass
George M. Bohigian
A. J. Campbell
Jean A. Chapman
Richard K. Danis
Chris Fotopoulos
Victoria Gunn
Jimmy D. Heath
Joseph D. Lauber
Carl Myers
Carl E. Pearman
Dorothy D. Reister
Bruce Stoliar

REPORT OF THE COUNCILOR DISTRICT DIRECTORS ON CONTINUING MEDICAL EDUCATION

Committee members met on Dec. 3, 1983 with representatives of seven hospitals, one medical society and one specialty organization seeking reaccreditation as a sponsor for continuing medical education.

The committee made the following recommenations:

1. St. Joseph Hospital of Kirkwood, Kirkwood — Full accreditation for a three-year period.
2. St. John's Medical Center, Joplin — Full accreditation for a four-year period.
3. Faith Hospital, Creve Coeur — Full accreditation for a four-year period.
4. Greene County Medical Society, Springfield — Full accreditation for a four-year period.
5. DePaul Community Health Center, Bridgeton — Full accreditation for a four-year period.
6. St. Joseph Health Center, St. Charles — Full accreditation for a four-year period.

In addition to these recommendations, the committee tabled the recommendations for three sponsors pending more information.

William D. Bradshaw, *Chairman*
John R. Dixon
Patricio C. Avila
Robert H. Ramsey
John C. Soucy
W. Wayne Boydston
George X. Trimble
Walter C. Dandridge
Bernard Draper
Christopher H. Jung

Missouri State Medical Foundation

Annual Meeting
Marriott's Pavilion Hotel, St. Louis
Friday, March 30, 1984

The Annual Meeting of the Missouri State Medical Foundation was called to order by Dr. Mary E. S. Case, vice-president.

The minutes of the 1983 Annual Meeting and the auditor's report ending Dec. 31, 1983 were approved as published in Missouri Medicine.

Mr. Tom Reardon, chairman of the nominating committee, recommended that Dr. Robert H. Tanner, Dr. Gary A. Dyer, and Dr. Carl C. Pearman each be reappointed to serve another five-year term. The ex-officio member of the Board will be Dr. James M. Stokes, president of the Missouri State Medical Association. The nominating committee report was unanimously approved.

There being no further business, the Annual Meeting was adjourned.

Board of Trustees
Marriott's Pavilion Hotel, St. Louis
Friday, March 30, 1984

The meeting of the Board of Trustees of the Missouri State Medical Foundation was called to order by Dr. Mary E. S. Case, vice-president.

The nominating committee presented the following slate of officers who were elected by acclamation:

President — Miles C. Whitener, M.D., St. Louis County.
Vice-President — Mary E. S. Case, M.D., St. Louis.
Secretary-Treasurer — Robert H. Tanner, M.D., Jefferson City.

Mr. Ron Ellison was reappointed Assistant Secretary.

Other members of the Board of Trustees are Dr. Max S. Franklin, St. Louis; Dr. Gary A. Dyer, St. Joseph; Dr. Carl C. Pearman, Joplin; Dr. Albert D. Cross, Trenton; Dr. Larry P. Courter, Jefferson City; and Dr. Frederick W. Hahn, Kansas City.

Dr. Tanner announced that contributions received in 1983 totalled $10,261.86. This represents an increase over the amount of contributions received in 1982.

There being no further business, the meeting was adjourned.

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ADDRESS ______________________

ZIP ______________ **PHONE (AC)** ______________

SCHOOL ATTENDED/ATTENDING ______________

GRADUATION DATE ______________ **DEGREE** ______________

SPECIALTY AREA OF INTEREST ______________

____

Resolutions

Resolution #1 — Usual and Customary or Reasonable (UCR Program)

(Introduced by Jasper County Medical Society)

Resolved, That the Missouri State Medical Association no longer advocates UCR as the sole preferential method of establishing third-party payments under fee-for-service; and be it further

Resolved, That an immediate study be undertaken to evaluate the positive aspects of both usual and customary or reasonable (UCR) and indemnity reimbursement methods; and be it further

Resolved, That the House of Delegates reaffirms Association policy supporting (a) freedom of physicians to choose the method of payment for their services and to establish fair and equitable fees; (b) freedom of patients to select their source of care; and (c) neutral public policy and fair market competition among alternative health care delivery and financing system; and be it further

Resolved, That a report concerning a pluralistic approach to third-party reimbursement methodology be forthcoming at the next annual meeting.

(Resolution #1 was adopted.)

Resolution #2 — Dues Increase in 1985

(Introduced by the MSMA Council)

Resolved, That the Missouri State Medical Association Council and staff study, develop and implement new suitable programs that will produce non-dues income for the Association; and be it further

Resolved, That dues for active members be increased by $25 per year effective January 1, 1985; and be it further

Resolved, That the Missouri State Medical Association Bylaws be changed to read as follows: (Changes are underlined)

"Section 1. (a). The annual dues of this Association shall be $150 which shall be applicable to each active member of the Association beginning in 1985 and shall be levied per capita on the active members of the component societies; physicians leaving training programs and entering practice for the first time shall be assessed dues of $75 for the first calendar year. . . ."

(Resolution #2 was adopted.)

Resolution #3 — Formation of Hospital-Medical Staff Section

(Introduced by the MSMA Council)

Resolved, That the Missouri State Medical Association Council prepares proposed changes in the Constitution and Bylaws to implement the establishment of a MSMA Hospital Staff Section. This should be presented to the 1985 House of Delegates along with a fiscal note.

(The above Substitute Reolution #3 was adopted.)

Resolution #4 — Composition of MSMA House of Delegates

(Introduced by Jackson Sounty Medical Society)

Resolved, That the House of Delegates of the Missouri State Medical Association instructs the MSMA Council to study the subject of Delegate representation and return to the House at its 1985 Annual Meeting with a plan which provides for a House, reasonable in size and representative in composition.

(Resolution #4 was not adopted.)

Resolution #5 — Reducing Worker Absenteeism

(Introduced by Jackson County Medical Society)

Resolved, That the Missouri State Medical Association develops a program to inform physicians about what they can do to promote cost containment by helping to reduce unnecessary sick leave/disability/absenteeism; and be it further

Resolved, That the Missouri State Medical Association considers publishing an informational brochure, similar to the one developed by the California Medical Association in 1981, which could be sent to all members of the Association.

(Resolution #5 was adopted.)

Resolution #6 — Tort Liability Reform

(Introduced by the MSMA Commission on Medical-Legal Affairs)

Resolved, That the Missouri State Medical Association initiates the formation of a coalition with hospitals, osteopathic physicians, the legal profession, insurance companies, business, industry, consumer groups and other professional groups, and be it further

Resolved, That this coalition address the following:

a. Reform of Missouri product and professional liability laws.
b. Appropriate public education programs regarding the liability problems and the cost to consumers.
c. The problem of expert witnesses.

and be it further

Resolved, That this resolution be forwarded to the AMA for consideration at the June, 1984 meeting.

(The above Substitute Resolution #6 was adopted in lieu of Resolutions #9, #13, #21 and #28.)

Resolution #7 — Workers' Compensation Laws

(Introduced by Boone County Medical Society)

Resolved, That the MSMA encourages the Missouri Division of Workers' Compensation to re-examine its present disability rating system to insure that the system stresses incentives for returning disabled workers to the work force, and be it further

Resolved, That if such a problem exists, the MSMA should provide information and education for physicians regarding rehabilitation which could return those individuals designated "permanent/partial disability" to the work force.

(The above Substitute Resoultion #7 was adopted as amended.)

Resolution #8 — Requiring Insurance for Motorcycle Operators

(Introduced by Buchanan County Medical Society)

Resolved, That the Missouri State Medical Association asks for and supports legislation requiring motorcycle operators to have verification of $150,000 to $200,000 of medical insurance as a requirment for an operator's license.

(Resolution #8 was not adopted.)

Resolution #9 — Professional Liability Reform Measures

(Introduced by Buchanan County Medical Society)

Resolved, That the Missouri State Medical Association supports and promotes in every possible way, pending and future bills that embody needed professional liability reform measures.

(Refer to Resolution #6 for action on Resolution #9.)

Resolution #10 — Athlete's Use of Chemical Substances

(Introduced by Clay-Platte County Medical Society)

Resolved, That the Missouri State Medical Association submits a resolution to the American Medical Association to initiate through its Council on Scientific Affairs a comprehensive study on the use of chemical substances by athletes; and be it further

Resolved, That, if the study determines there is a sizeable problem, the American Medical Association takes the lead in developing new methods and philosophies for dealing with the phenomenon.

(Resolution #10 was adopted as amended.)

Resolution #11 — Prospective Payment to Hospitals

(Introduced by Ozarks Medical Society)

Resolved, That the Missouri State Medical Association recommends to the federal government that the lower payments to rural hospitals as compared with urban hospitals for identical DRGs are unfair and this differential should be abolished, and be it further

Resolved, That our delegates to the AMA take this resolution to the AMA and seek its passage.

(The above Substitute Resolution #11 was adopted.)

Resolution #12 — Barriers to Membership

(Introduced by the MSMA Ad Hoc Committee on Membership)

Resolved, That the House of Delegates encourages the MSMA and component societies to eliminate "barriers" to membership by:

1. Improving MSMA's contact and solicitation efforts of all non-member physicians in the state;
2. Requesting the 18 component medical societies which do not offer reduced dues to physicians in their first year of private practice to institute such a procedure;
3. Requesting the 16 component societies which do not offer reduced dues to those members wishing to join after June 1 to institute such a procedure;
4. Asking each component medical society to review its bylaws to better enable "members in good standing" of one component medical society to be accepted as a member in another component society;
5. Asking each component medical society to review its bylaws to determine ways to eliminate or shorten "waiting periods" which can postpone a prospective member for up to one year;
6. Request that each component medical society eliminates an "application fee," unless that fee is applied to the new member's dues; and
7. Request each component medical society to establish active membership retention and membership recruitment efforts.

(Resolution #12 was adopted.)

Resolution #13 — Professional Liability Insurance Problem

(Introduced by Clay-Platte County Medical Society)

Resolved, That the Missouri State Medical Association continues annual efforts to have introduced in and considered by the Missouri General Assembly legislative proposals designed to alleviate the onerous problems relating to professional liability (malpractice) litigation without jeopardizing the rights of individuals with legitimate claims of professional negligence; and be it further

Resolved, That the Missouri State Medical Association seeks out and cooperates with other professions, trades and businesses which have similar problems relating to professional or product liability and which also are seeking legislative relief.

(Refer to Resolution #6 for action on Resolution #13.)

Resolution #14 — Medicaid: Weekend Admissions

(Introduced by Greene County Medical Society)

Resolved, That the Missouri State Medical Association, through its commissions and committees as proper, uses all of its considerable power to ameliorate Medicaid's restrictive regulations relating to weekend patient admissions to hospitals, and be it further

Resolved, That the Missouri State Medical Association also extends its attention to Medicaid's policy of restricting each beneficiary to only four (4) prescriptions per month which also saves no money but penalizes severely ill patients who need more medications.

(Refer to Resolution #16 for action on Resolution #14.)

Resolution #15 — Medicaid: Institutionalized Care

(Introduced by Greene County Medical Society)

Resolved, That the Missouri State Medical Association makes a thorough study of Medicaid's policies toward institutionalized care of patients and provides the Governor, the Legislature and the Division of Family Services with their findings, and be it further

Resolved, That the Missouri State Medical Association exerts its full power, both political and social, in seeing that inequities involving institutionalized care are righted.

(Resolution #15 was adopted.)

Resolution #16 — Medicaid

(Introduced by Greene County Medical Society)

Resolved, That the Missouri State Medical Association thoroughly investigates Medicaid's policies regarding Managed Health Care Delivery System, restrictive regulations relating to weekend patient admissions to hospitals and restricting each beneficiary to a limited number of prescriptions per month and if any of these are found to be detrimental to the patients in any way, uses all of the power of the Missouri State Medical Association in the correction of demonstrated deficiencies.

(The above Substitute Resolution #16 was adopted in lieu of Resolution #14 and Resolution #16.)

Resolution #17 — Cooperation

(Introduced by Greene County Medical Society)

Resolved, That physicians be tolerant of requests by allied health care providers for clarification and in case of error, thankful; and especially cooperative in helping obey the laws with all their complexities.

(Resolution #17 was not adopted.)

Resolution #18 — Alternatives to Abortion

(Introduced by David Simon, M.D. and Bruce Stoliar, M.D., St. Louis)

Resolved, That the Missouri State Medical Association urges its members to consider the moral and ethical aspects of abortion, the rights of the fetus, and alternatives to abortion when considering doing an abortion.

(Resolution #18 was not adopted.)

Resolution #19 — Physician Consensus on Outpatient Surgical and Medical Procedures and Medical Illnesses

(Introduced by Paul L. Friedman, M.D., St. Louis)

Resolved, That the Missouri State Medical Association develops a list of medical and surgical procedures and medical illnesses that may be managed on an outpatient basis, and be it further

Resolved, That this list be promulgated to all physicians, patients and third party payers, and be it further

Resolved, That the MSMA obtains from all third party payers which, if any, of this care they do not cover as outpatients, and be it further

Resolved, That the MSMA uses all its influence, even to the legislative arena, to obtain third party coverage for this list of procedures, and be it further

Resolved, That our delegates to the AMA take this resolution to the AMA and seek its passage.

(It was voted to refer Resolution #19 to the MSMA Council.)

Resolution #20 — Prompt Payment of "Properly Submitted Insurance Claims"

(Submitted by Edward M. Ring, M.D., St. Louis)

Resolved, That medical insurance companies in Missouri pay a "properly submitted claim" within 60 days of receipt unless the provider is promptly notified of the bills being contested, and be it further

Resolved, That the Director of the Missouri Division of Insurance exercises rule-making power to promulgate rule(s) that would require prompt payment to both patients and physicians by medical insurance carriers.

(Resolution #20 was not adopted.)

Resolution #21 — Liability and Tort Reform (Tort is a civil wrong other than a breach of contract, such as the law requires for damages.)

(Introduced by George M. Bohigian, M.D., St. Louis)

Resolved, That the Missouri State Medical Association and the American Medical Association continue to work on tort reform, especially contingency fees, with other groups, i.e. architects, engineers, dentists, pharmaceutical firms, business coalitions, insurance firms, etc., and be it further

Resolved, That consideration of a framework similar to Workmen's Compensation be established to avoid the judicial setting.

(Refer to Resolution #6 for action on Resolution #21.)

Resolution #22 — Second Opinion Immunity from Litigation

(Introduced by Edward J. Shaw, M.D., St. Louis)

Resolved, That the submitter of the second opinion be protected by law from such suit or that the insurance company or federal government be required to finance the defense of the suit, and be it further

Resolved, That this resolution be submitted for consideration by the AMA.

(Resolution #22 was not adopted.)

Resolution #23 — Peer Review

(Introduced by St. Louis Metropolitan Medical Society)

Resolved, That the House of Delegates of the Missouri State Medical Association endorses the action of the Missouri Patient Care Review Foundation to subcontract to the local PSROs those functions that are legally and medically necessary, and be it further

Resolved, That this endorsement be forwarded to the appropriate legislative and regulatory bodies.

(Resolution #23 was adopted.)

Resolution #24 — Recommendations for Multidisciplinary Studies

(Introduced by L. Mark Taylor, Medical Student, University of Missouri-Columbia)

Resolved, That the MSMA encourages those individuals who are intending to enter the practice of medicine to pursue high school and college educational programs that include study in multiple disciplines.

(It was voted to refer Resolution #24 to the MSMA Council.)

Resolution #25 — Payment for In-Home Health Care

(Introduced by L. Mark Taylor, Medical Student, University of Missouri-Columbia)

Resolved, That the MSMA supports the retention of current regulations ensuring that funds appropriated for in-home health care of handicapped individuals are used to pay for the intended services, and that these services are carried out by qualified individuals in exchange for appropriate compensation, and be it further

Resolved, That the MSMA opposes state legislation designed to allow payment of funds designated for in-home health care, directly to handicapped individuals, to be used at their unsupervised discretion.

(Resolution #25 was not adopted.)

Resolution #26 — Registration of Physician Assistants

(Introduced by Michael R. Richmond, M.D., St. Louis)

Resolved, That the Missouri State Medical Association, now and in the future, supports the registration of physician assistants in the State of Missouri under the supervision of the State Board of Registration for the Healing Arts.

(Resolution #26 was not adopted.)

Resolution #27 — Resident Physician's Section in MSMA House of Delegates

(Introduced by Clay-Platte Medical Society)

Resolved, That the Missouri State Medical Association Council prepares proposed changes in the Constitution and Bylaws to implement the establishment of a MSMA Resident Physician's Section. This should be presented to the 1984 House of Delegates along with a fiscal note.

(Substitute Resolution #27 was adopted.)

Resolution #28 — Malpractice Litigation

(Introduced by T.S. Mistry, M.D., St. Louis)

Resolved, That the public be made aware of the seriousness of the problem through seminars, radio and TV shows and newspaper articles under the guidance of local medical societies, and with the collaboration of prominent leaders of industry, who are intimately connected with health care payments, and be it further

Resolved, That the medical community engage in tougher self-scrutiny with a view to improving existing methods of risk management, and be it further

Resolved, That improved risk management include, but not be limited to, the following:

1. Compilation of data by the Missouri State Medical Association and Missouri State Hospital Association pertaining to the types of injuries most often resulting in litigation according to specialty.
2. Furnish this information to all member physicians and hospitals.
3. Require all member hospitals to establish a periodic departmental review process which would scrutinize all cases falling in these high risk categories, and be it further

Resolved, That the freedom to choose an expert witness is a right granted by the judicial system which needs to be modified so as to allow a screening process similar in principle to jury selection. This would recognize the crucially important role of the expert witness and the screening process would ensure that this person is accepted and trusted as an expert by his peers and, moreover, is a person of unimpeachable integrity so as to remove any stigma of pecuniary motivation, and be it further

Resolved, That the screening of expert witnesses be the responsibility of a panel of experts in each specialty, selected by the MSMA or medical society and functioning under the auspices of the appropriate judicial authority, and be it further

Resolved, That the MSMA should explore the introduction of pretrial screening panels composed of experts in different specialties, which would help the legal profession in discriminating between cases based on genuine negligence or injury from those of a whimsical, mercenary or frivolous nature, thereby greatly reducing the explosive growth of malpractice litigation and the cost thereof; and be it further

Resolved, That all members of MSMA familiarize themselves with the four bills pending before the Missouri Legislature regarding malpractice litigation reform and give their utmost support through accepted lobbying channels.

(Refer to Resolution #6 for action on Resolution #28.)

Resolution #29 — Vaccine Liability

(Introduced by the Missouri Chapter, American Academy of Pediatrics. Donald Thurston, M.D., President)

Whereas, The State of Missouri requires mandatory vaccination for diphtheria, pertussis, tetanus, measles, rubella, mumps, and polio, be it

Resolved, That the Missouri State Medical Association supports or initiates legislation in the State of Missouri to free the physician administering these vaccines from liability from reactions, and be it further

Resolved, That the MSMA supports legislation on this subject as proposed by the American Academy of Pediatrics on a national basis.

(Resolution #29 was adopted unanimously.)

Resolution #30 — Raising Drinking Age to 21 Years of Age

(Introduced by the Missouri Chapter, American Academy of Pediatrics. Donald Thurston, M.D., President)

Resolved, That the Missouri State Medical Association supports legislation on the national level to raise the legal drinking age to 21 years of age, and that this resolution be sent to the American Medical Association.

(The above Substitute Resolution #30 was adopted as amended.)

Resolution #31 — Confidentiality of Recorded Proceedings of Hospital Committees

(Introduced by Audrain County Medical Society)

Resolved, That the Missouri State Medical Association develops and causes to be presented to the Missouri General Assembly a bill which would guarantee the confidentiality of minutes, correspondence and other recorded proceedings of hospital committees which are concerned with the quality of patient care, and be it further

Resolved, That the Missouri State Board of Registration for the Healing Arts shall not be limited in their access to these records.

(The above Substitute Resolution #31 was adopted.)

Resolution #32 — Physician Fee Freeze

(Introduced by the MSMA Council)

Resolved, That the Missouri State Medical Association requests its members to voluntarily freeze their fees for all patients for one year beginning today, and be it further

Resolved, That the MSMA asks each member to continue to consider the financial circumstances of each patient and accept reduced fees when warranted.

(The above Substitute Resolution #32 was adopted.)

Resolution #33 — Physician Fee Freeze

(Introduced by Cole County Medical Society)

Resolved, That the Missouri State Medical Association requests its members to consider the financial circumstances of each patient, particularly the unemployed, the uninsured and those on Medicare, and accept reduced fees when warranted.

(Refer to Resolution #32 for action on Resolution #33.)

Remember These Dates!

Missouri State Medical Association

127th ANNUAL CONVENTION

April 10-14, 1985

Hyatt Regency Hotel Kansas City

Changes in the MSMA Constitution and Bylaws

The following constitutional amendments were proposed at the 1982 Annual Session and were approved by the Committee on Constitution and Bylaws.

In accordance with the Constitution, the changes were sent to each component medical society at least two months prior to the meeting and have been published in the Journal of the Association.

Bracketed words have been deleted. Underlined words have been added.

Constitution

ARTICLE IV

The House of Delegates shall be the legislative body of this Association and shall consist of delegates elected by the component societies as well as all Past-Presidents of the Association, the Speaker and Vice-Speaker and the Deans of each medical school located in Missouri who are members of the Missouri State Medical Association, who shall serve as Delegates-at-Large. It shall elect a Speaker and Vice-Speaker from its body. Its Secretary shall be the Secretary of the Missouri State Medical Association.

ARTICLE V

The Council shall be the executive body of this Association when the House of Delegates is not in session. [It shall be the judicial body of the Association when matters are referred to it for decision by the Association, by component societies or by individual members thereof.] It shall consist of the President, President-Elect, Immediate Past-President, Secretary, Treasurer and the duly elected Councilors from each Councilor District and a duly elected medical student Councilor. A majority of voting members of the Council shall constitute a quorum.

ARTICLE VI

The Judicial Council shall be the judicial body of the Association. It shall consist of five active members nominated by the President and elected by the House of Delegates.

ARTICLE VI

Becomes Article VII

ARTICLE VII

Becomes Article VIII

ARTICLE VIII

Becomes Article IX

ARTICLE IX

Becomes Article X

ARTICLE X

Becomes Article XI

Bylaws

Chapter III, Sec. 2(f). All Past-Presidents of the Association, the Speaker and Vice-Speaker and the Deans of each medical school located in Missouri who are members of the Missouri State Medical Association shall serve as Delegates-at-Large.

[Chapter VI. Sec. 4. The District Councilors shall select one of their number who, together with two members of component societies within the Councilor District selected by the District Councilors, shall serve as a Board to hear and, by a majority vote, adjudicate any questions involving the right and standing of members, either in relation to other members or to component societies or to the Association, and all matters of discipline affecting the conduct of members of component societies, or other matters.]

[The Council shall be the appellate Board of Censors of the Association. It shall hear and adjudicate all matters on appeal from the decision of the Councilor Board; it shall hear and adjudicate matters of an ethical nature brought before the House of Delegates or a general meeting and these matters shall be referred to the Council without discussion. On original decision or appellate determination, its decision shall be final unless appealed to the then convened meeting or the next meeting of the House of Delegates.]

Sections 5 through 12 of Chapter VI would then be renumbered accordingly.

CHAPTER XI. COMPONENT SOCIETIES

Section 1. (No Change)

Sec. 2. Each component society shall be judge of the qualifications of its members subject to review and final decision by the *Judicial* Council of the State Association. Every reputable and legally qualified physician or medical student who does not practice, nor profess to practice sectarian medicine, and who resides or practices in the same county, who shall apply for membership on the prescribed form and subscribe for the journal and pay the annual dues and assessments for the current year, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The *Judicial* Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the *Judicial* Council.

The Council may upon request of a component society remit the state dues and assessment of a member who has become totally and permanently incapacitated through mental or physical disability and has been a member in good standing during the three consecutive years immediately preceding his disability, provided that the component society shall remit the component society dues of such member.

The Council may, upon request of a component society, remit the state dues and assessments of a deserving member, found to fall within what is classified as a hardship case, during the period of said hardship until such time as the dues again become payable; provided that the component society shall remit the component society dues of such member.

A physician living near a component society boundary line may hold his membership in that component society most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 3. Any member who may feel aggrieved by the action of the component society in suspending or expelling him shall have the right to appeal to the *Judicial* Council whose decision shall be final. A component society shall at all times be permitted to appeal or refer questions involving membership to the *Judicial* Council of the State Association for final determination.

Sec. 4. In hearing appeals, the *Judicial* Council may admit oral or written evidence or both as in its judgment will most fairly present the facts.

Chapter XII. Sec. 1. The Judicial Council shall have original jurisdiction in all questions involving Missouri State Medical Association membership, all controversies arising under the Constitution and Bylaws and under the rules of conduct as outlined in the Bylaws and controversies between two or more component societies or their members. The Judicial Council shall be the judicial authority of the Missouri State Medical Association and its decisions shall be final. The Judicial Council shall also investigate general ethical conditions and matters pertaining to the relations of physicians to one another or to the public and make recommendations to the House of Delegates or the component societies.

Sec. 2. The Judicial Council shall be composed of five members elected to five-year terms. Nominees shall be submitted by the President for election by the House of Delegates. Any vacancy occurring on the Judicial Council shall be filled by nomination of the President and election by the House at its next Convention for the remainder of the unexpired term. The first five members of the Judicial Council shall be elected on a staggered basis: one for one year; one for two years; one for three years; one for four years; one for five years.

Sec. 3. The Judicial Council shall select a Chairman and Vice Chairman and it may adopt such rules and regulations as it deems necessary and appropriate for the conduct of its affairs subject to approval by the MSMA Council.

In Memoriam

Whereas, there have been 72 deaths among members since the 1983 Annual Convention, and

Whereas, each of these members is missed as an individual as well as for his contributions to the practice of medicine and to the Missouri State Medical Association, and

Whereas, the loss of each member is felt by all members, as well as his loved ones and close associates and the patients he has served with dedication, be it

Resolved, that the House of Delegates will now pay personal tribute by standing for a moment of silence in memory of each of the 72 members we have lost and whose names will be recorded in the minutes of this Annual Session.

Royse, Roy P., Sullivan
Jolly, William, Mexico
Gummels, Belmont B., St. Louis
Roberts, Paul A., Sweet Springs
Meyer, Herman M., St. Louis
McCullough, Campbell C., Jr., Oak Grove
Cutler, Harry, St. Louis
Kuttner-Gronau, Marianne, St. Louis
Ogura, Joseph H., St. Louis
Ott, Harold J., Sr., St. Louis
Lapp, Harry C., Lee's Summit
Koehler, John, Joplin
Slickman, Robert A., Kansas City
Klein, Arnold G., Chesterfield
Schmidt, Charles A., Gerald
Tarver, Quinton, Kennett
Kieffer, Victor B., Kirkwood
Hamilin, Howard H., Shawnee Mission
Luedde, Philip S., Florida
Smith, James O., Clinton
Kohler, Louis H., St. Louis
Vincent, Jack C., Shawnee Mission
Abell, Walter E., St. Louis
Gist, William W., Kansas City
Royston, Grandison D., Arkansas
Rosenfeld, Henry, St. Louis
Seabaugh, Ottis D., Chesterfield
Coller, Fred C., Springfield
Ryan, J. Harold, St. Joseph
Griege, Charles W., St. Louis
Hansen, Arthur L., Butler
Ritterbusch, James K., Fulton
Zwart, Claude H., St. Louis
Lyttle, Garnet C., St. Louis
Mooney, Justin L., Shawnee Mission
Stryker, Garold V., Florida
Brenner, Paul A., Owensville
Lissner, Arthur B., St. Louis
Obermeyer, Charles G., St. Louis
Younge, Walter A., St. Louis
Scorse, Sidney W., Neosho
Steiner, Gregory, LaGrange
Asher, Arthur G., Lee's Summit
Jackson, Haywood R., Kansas City
McCann, Louis P., Nevada
Morrin, Kevin C., St. Louis
Buhler, Victor, Kansas City
Pilla, Lawrence A., St. Louis
Sweet, Herbert, St. Louis
Appleberry, Charles H., Flat River
Roller, Merrill J., Hannibal
Fleming, Thomas S., Moberly
Byland, Benjamin F., Maryville
Wade, Frederick E., Kansas City
Wray, Rolla B., Nevada
McHaney, John W., Jefferson City
Hanser, Theodore H., St. Louis
Chiles, David R., Smithville
Morris, Mary E., St. Louis
Langenbach, Alfred M., Chesterfield
Marmor, William A., St. Louis
Challener, William A., III, St. Joseph
Bergman, Hugo F., St. Louis
Grove, Gulph W., Knob Noster
Reineck, John A., St. Louis
Dunham, Robert H., Kansas City
Donnell, Thomas A., Hillsboro
Tassi, Albert A., Jr., St. Charles
Carroll, George A., St. Louis
Sanders, George E., Lee's Summit
Mars, Hartley F., Forsyth
Wood, George F., Fulton
Matteson, Frank B., Grant City

REGISTRATION OF THE 126TH ANNUAL CONVENTION

First Councilor District — 24

Andres, E. H., St. Joseph
Baker, W. C., St. Joseph
Bare, Edward Tarkio
Bowles, Richard P., Liberty
Dixon, John R., Brookfield
Dyer, Gary A., St. Joseph
Fakhoury, Donald A., Kansas City
Harr, Pat B., Maryville
Hedges, Richard C., N. Kansas City
Humphrey, James, Mound City
Kuenzi, D. E., Kansas City
McPhee, W. R., Kansas City
Martin, John, St. Joseph
Mullican, Charles N., St. Joseph
Myers, Carl M., Platte City
Piontek, James F., Liberty
Schertz, T. B., N. Kansas City
Sodeman, Thomas, St. Joseph
Soper, William D., Liberty
Sportsman, Weldon, Kansas City
Tobin, Robert F., St. Joseph
Vilmer, Stephen E., N. Kansas Cit
Wadlow, Ernest E., St. Joseph
Wolanski, Eugene G., St. Joseph

Second Councilor District — 11

Ahlum, Sandra, Hannibal
Cohrs, C. C., Moberly
Fleming, J. Will, Moberly
Florendo, P. T., Hannibal
Hall, Stanley G., Hannibal
Johnson, Lent, Hannibal
Kruse, Carl R., Palmyra
Middleton, John W., Louisiana
Plowman, Edward M., Hannibal
Stuerman, Lawrence G., Louisiana
Tompson, R., Moberly

Third Councilor District — 326

Adelmann, Eugene R., Creve Coeur
Admad, Nusrat, St. Louis
Ahmed, Noor, Alton, Ill.
Albert, I. Renee, St. Louis
Anderson, Charles B., St. Louis
Anderson, John M., St. Louis
Anglo, Luis B., St. Louis
Aronberg, Jerome, Clayton
Augustin, Cesar, St. Louis
Ayata, Sedat M., St. Louis
Aylward, H. J., St. Louis
Bailey, W. H., St. Louis
Balster, V. H., St. Louis
Banton, M. Roman, St. Louis
Banton, William C., St. Louis
Bart, Gerald N., St. Louis
Bashiti, Mohammad, St. Louis
Batan-Co, Ruby, Chesterfield
Baula, Armindo C., St. Louis
Bauschard, Fred D., St. Louis
Beare, Lucia V., St. Louis
Bell, Martin J., St. Louis
Bhattacharya, Sarwath, St. Louis
Bettonville, Paul J., Kirkwood
Biddy, Ralph L., St. Louis
Blythe, James, St. Louis
Bohigian, George, St. Louis
Boldizar, A. G., St. Louis
Bole, C. Read, St. Louis
Bolinske, R. E., St. Louis
Bolton, Robert L., St. Louis
Bonacorsi, John J., Bridgeton
Boonkham, C., Bridgeton
Bortnick, Arthur R., St. Louis
Bourjolly, Wilson, St. Louis
Bowerman, Harold H., St. Louis
Bowles, C. Robert, Kirkwood
Bradley, Richard V., St. Louis
Brady, Harry, St. Louis
Brennan, R., Jr., St. Louis
Brielmaier, Charles, Frontenac
Brodeur, Armand E., St. Louis
Brody, Arnold C., St. Louis
Brown, James M., St. Louis
Bruns, Kenneth, St. Louis
Buettner, John B., St. Louis
Burchett, Robert, University City
Burstein, Robert, St. Louis
Cabbahe, E. B., St. Louis
Caciolo, Carlo, St. Louis
Callahan, Donald E., St. Louis
Cantor, Sol F., Chesterfield
Carmichael, Kim A., Chesterfield
Case, Mary E., St. Louis
Catanzaro, F. J., Jr., St. Louis
Chehval, Michael, St. Louis
Chirino, Octavio, R., Kirkwood
Claycomb, Gerald, Chesterfield
Codd, John, St. Louis
Cohen, Robert S., St. Louis
Cole, Harry O., St. Louis
Coleman, Donald L., St. Louis
Colosi, Nicholas J., St. Louis
Comens, Ruth C., St. Louis
Connors, J., St. Louis
Cooper, T. J., St. Louis
Coronado, Mario A., St. Louis
Costello, J. P., St. Louis
Dames, Richard J., St. Louis
Danis, Richard K., St. Louis
Dash, Ira R., St. Louis
Dash, Udaya N., St. Louis
DeCastro, Edwino, St. Louis
DeCastro, Fernando, St. Louis
DeUngria, Pablo C., St. Louis
Dehner, Jonathan, St. Louis
Destouet, Judy M., St. Louis
Devine, John B., St. Louis
Dickler, Donald J., St. Louis
Diemer, Peter A., St. Louis
Dillard, Burl M., St. Louis
Donati, Robert M., St. Louis
Donley, Leo F., St. Louis
Dorton, Robert K., St. Louis
Drescher, Emmett B., St. Louis
Drews, Robert, St. Louis
Druck, Norman, St. Louis
Duffy, F. C., St. Louis
Duggan, John J., Jr., Kirkwood
Dumadag, V. P., St. Louis
Duvall, Joseph, St. Louis
Eachempati, Una, Chesterfield
Edwards, James E., St. Louis
Ehrlich, Carl, St. Louis
Ekunno, Josiah O., St. Louis
Elcock, Devera M., Chesterfield
Ettelson, Charles D., Chesterfield
Evens, Ronald, St. Louis
Fabito, Daniel C., St. Louis
Fallon, Richard H., St. Louis
Fehlman, B. F., Jr., Clayton
Feliciano, W., St. Louis
Fisher, Linda, St. Louis
Flanigan, George D., Jr., St. Louis
Flynn, John T., St. Louis
Floro, Mariano, Florissant
Frankel, Scott, St. Louis
Frawley, Thomas, St. Louis
Frederick, Raymond O., St. Louis
Freel, James H., St. Louis
Friedman, Paul L., St. Louis
Friedrich, Ernst R., St. Louis
Fries, J. N., Belleville, Ill.
Furla, Augusta J., St. Louis
Gabrawy, Laila, Clayton
Galakatos, A. E., St. Louis
Callagher, Ed, Ballwin
Gantner, George E., Jr., St. Louis
Ceise, August W., St. Louis
Cerowin, Lance, St. Louis
Gilula, Louis, St. Louis
Gladney, John H., St. Louis
Gnade, Albert J., St. Louis
Gomez, Cesar A., St. Louis
Gragnani, John A., St. Louis
Graviss, Richard, St. Louis
Cregory, John, St. Louis
Griggs, James T., St. Louis
Gunn, Walter T., St. Louis
Haddock, James N., Webster Groves
Hantz, O., Florissant
Hasenmueller, James J., St. Louis
Hardy, David S., Richmond heights
Hardy, Guerdan, St. Louis
Hatfalvi, B. I., St. Louis
Hawatmeh, Abe S., St. Louis
Hawkins, Ceorge, Webster Croves
Henschel, Eugene V., St. Louis
Herjanic, Marijan, St. Louis
Herzog, C., St. Louis
Hironimus, John, St. Louis
Hodel, Kenneth, St. Louis
Hollo, Vencel W., Clayton
Holloway, Robert B., St. Louis
Huffaker, William H., St. Louis
Hughes, Robert C., St. Louis
Hummel, William C., St. Louis
Ikeda, S., St. Louis
Ishida, Yasuo, St. Louis
Izmirlian, Crant, Creve Coeur
Jacobs, Charles C., St. Louis
Jatala, Ijaz, St. Louis
Jean, J. T., St. Louis
Jensen, Joshua E., St. Louis
Johnson, Mitchell D., Ferguson
Johnstone, John, Jr., Kirkwood
Junker, James A., St. Louis
Kabir, M. A., St. Louis
Kayes, Jack, St. Louis
Kendig, John H., St. Louis
Khan, A. R., St. Louis
Kinsella, Ralph A., Jr., St. Louis
Kitchen, Alice, St. Louis
Knopf, Harry, Clayton
Knowles, Raymond
Kolker, Allen E., St. Louis
Kowert, Edward H., St. Louis
Krieger, John L., St. Louis
Kronemer, Norton S., St. Louis
Kuczer, Arnoldo, Chesterfield
Kveton, John F., St. Louis
Kuhn, Nobuko O., St. Louis
Kumari, Vijaya, Manchester
L'Ecuyer, Jerome, St. Louis
Laird, John, St. Louis
Lauber, Joseph J., St. Louis
Levitt, Robert, St. Louis
Lewin, W. Howard, Richmond Heights
Lewis, J. Eugene, Jr., St. Louis
Lieb, Francis X., St. Louis
Lin, Hsiu-San, St. Louis
Lotts, J. O., St. Louis
McAdam, C. Rush, St. Louis
McAlister, William H., St. Louis
MacDonald, Robert, Jr., St. Louis
Machek, Otakar, St. Louis
Mahe, George, St. Louis
Manion, Maria, St. Louis
Martin, P. L., St. Louis
Martirez, Emmanuel, Town & Country
Matsuba, Howard, St. Louis
Mayuga, Edgardo C., St. Louis
Medler, P. Louis, St. Louis
Melson, G. Leland, St. Louis
Mendelsohn, George D., Chesterfield
Mendelson, David F., St. Louis
Mendonsa, Lawrence E., St. Louis
Meyer, James E., Myrtle Beach, S.C.
Meyer, Jay, St. Louis
Meyer, Melvin E., St. Louis
Meyers, Elsie F., St. Louis
Middleton, Jerry N., St. Louis
Mikhail, G., St. Louis
Miller, Charles, St. Louis
Missey, Wilburn C., Jr., Chesterfield
Mistry, Tehmton S., St. Louis
Mohs, Frank R., St. Louis
Montes, Arturo C., St. Louis
Mora, Alvaro, St. Louis
Moran, Christopher J., St. Louis
Moritz, Gerald W., St. Louis
Muckerman, Richard I. C., St. Louis
Mueller, C. E., St. Louis
Mullarky, Wilbur A., St. Louis
Muncy, Cary A., St. Louis
Murphy, William, St. Louis
Niedermeyer, Ceorge J., St. Louis
O'Keefe, J. D., St. Louis
O'Neal, L. W., St. Louis
Oakley, Margaret M., St. Louis
Ollinger, H., St. Louis
Omell, Cary H., St. Louis
Onken, Henry D., St. Louis
Ostapowicz, Frank, St. Louis
Paletta, Theodore L., St. Louis
Palmer, Stephen M., St. Louis
Pardo, Leopoldo P., St. Louis
Pardo, Lourdes Santos, St. Louis
Paris, William H., Florissant
Parwatikar, S., St. Louis
Payne, Meredith J., St. Louis
Pepper, Max, St. Louis
Perkins, David E., St. Louis
Perlmutter, Steven B., St. Louis
Peterson, Fred, St. Louis
Petruska, Paul J., St. Louis
Phipatanakul, C., Florissant
Phipatanakul, Supote, Kirkwood
Ponnuru, Bhaskara M., St. Louis
Purcell, John, Jr., St. Louis
Quick, Richard T., St. Louis
Rainey, Robert, St. Louis
Ramirez-Inawat, Rebecca, Chesterfield
Rao, D. V., St. Louis
Rao, Shankar N., St. Ann
Redington, J. C., St. Louis
Reichert, M. Cecelia, St. Louis
Reisler, David M., St. Louis
Richards, Frank O., St. Louis
Richmond, Michael R., St. Louis
Ring, Ned, St. Louis
Ritter, H. A., St. Louis
Robbins, Philip L., Clayton
Roberts, John P., St. Louis
Roth, John J., St. Louis
Rumelt, Michael, St. Louis
Ryall, Jo-Ellyn M., St. Louis
Safdar, S. H., St. Louis
Saha, Sudha, St. Louis
Samudrale, R., St. Louis
Santillano, A. B., St. Louis
Sasser, W. F., St. Louis
Schmidt, Edwin H., St. Louis
Schneider, Sally L., St. Louis
Schuessler, W., St. Louis
Schulman, Jeffrey I., St. Louis
Schwartz, M., St. Louis
Schwarz, Luis, St. Louis
Schweiss, John F., St. Louis
Sciortino, John S., St. Louis
Sessions, Donald C., St. Louis
Sexton, Daniel L., Clayton
Shaw, Edward J., St. Louis
Shields, J. B., St. Louis

Siegel, Barry A., St. Louis
Signorelli, A. J., St. Louis
Simon, David L., St. Louis
Sisk, James, Clayton
Skimming, W. Lee, St. Louis
Slavin, Raymond G., St. Louis
Smith, Kenneth, St. Louis
Smith, Peter, St. Louis
Soule, S. D., Clayton
Spalding, Donald G., St. Louis
Steinberg, Franz U., St. Louis
Steiner, A. J., St. Louis
Stokes, James, St. Louis
Stoliar, Bruce, St. Louis
Stoneman, William, St. Louis
Stryker, William I., St. Louis
Sullivan, Clement, St. Louis
Sullivan, William W., Kirkwood
Summers, John B., St. Louis
Tess, Allen, Florissant
Thoma, George E., St. Louis
Thurston, Donald, St. Louis
Totty, William G., St. Louis
Tucker, Dolores, Clayton
Tucker, George L., Chesterfield
Ungvari, Joseph C., St. Louis
Valach, Frank J., St. Louis
Velasco, Ernest, St. Louis
Veluz, Benito I., Chesterfield
Venable, H. Phillip, Ballwin
Verde, J. Nick, St. Louis
Vitale, Anthony J., St. Louis
Vitale, N. S., St. Louis
Vitale, Stephen J., Chesterfield
Wacker, Leo L., St. Louis
Walker, Harvey, Jr., St. Louis
Walz, Bruce, St. Louis
Webber, William B., St. Louis
Wells, Samuel, St. Louis
West, Joseph W., Kirkwood
Whittico, James M., St. Louis
Wiant, James R., St. Louis
Wilkinson, David, St. Louis
Williams, Carol F., St. Louis
Wissner, Seth, St. Louis
Witten, Barry, St. Louis
Wittler, Harry A., St. Louis
Wolff, Dolores P., St. Louis
Wolff, Ray, St. Louis
Yates, Darrel, St. Louis
Zekert, Horst, St. Louis
Zografakis, George, St. Louis

Fourth Councilor District — 13

Clever, Victor, St. Charles
DelPizzo, Ferdinand, Jr., St. Charles
Houttuin, Erik, Festus
Kim, Yang H., Washington
Miles, Wayne B., St. Charles
Moellenhoff, Robert, Washington
O'Connor, J., Warrenston
Poggemeier W. H., St. Charles
Richardson, William R., Union
Roter, Alex N., St. Charles
Rother, Paul H., St. Charles
Shaw, James T., Hermann
Stufflebaum, Brian, St. Charles

Fifth Councilor District — 65

Akhter, Mohammad, Columbia
Allen, William C., Columbia
Alyea, J. O., Columbia
Anderson, P. C., Columbia
Anderson, Tom R., Columbia
Barbee, Charles, Columbia
Bradshaw, William D., Columbia
Braun, Alan L., Jefferson City
Brukardt, Diane T., Columbia
Bumgarner, Roger, Columbia
Byland, S. J., Wellsville
Cooper, Charles W., Jefferson City
Critchlow, John T., Mexico
Cunningham, Mila, Columbia
Denninghoff, James C., Columbia
Domke, Henry, Jefferson City
Durst, Henry, Fulton
Eggers, G. W. N., Jr., Columbia
Ekern, H. Peter, Mexico
Fuchs, George J., Columbia
Garrett, Glen H., Columbia
Geary, Lanny, Kennett
Giffen, L. E., Jefferson City
Grodon James S., Jefferson City
Groce, George, Fulton
Gunn, Victoria, Jefferson City
Hall, David G., Columbia
Heimburger, Dick, Columbia
Huq, Md. N., Mexico
Husain, Syed A., Columbia
Jackson, Vernon B., Fulton
Kanagawa, H., Jefferson City
Llorens, Alfred, Columbia
Matthews, John I., Jefferson City
Miller, Don P., Jefferson City
Mitchell, F. L., Columbia
Moranville, B. A.. Columbia
Nichols, W. Kirt, Columbia
Payne, David E., Columbia
Phillips, Stephen, Columbia
Pickard, C. M., Columbia
Puckett, C. Lin, Columbia
Ragland, John E., Linn
Rall, Kenneth L., Columbia
Renner, Gregory, Columbia
Roller, James A., Columbia
Ross, Gilbert, Jr., Columbia
Ryan, Thomas, Jefferson City
Salmon, Timothy P., Columbia
Schokker, Johannes, Jefferson City
Stephenson, Hugh E., Jr., Columbia
Stewart, W. B., Columbia
Stuart, Byron M., Boonville
Su, Philo, Jefferson City
Summers, Joseph S., Jr., Jefferson City
Tanner, R. H., Jefferson City
Templer, Jerry W., Columbia
Thomas, Robert M., Columbia
Washburn, J. L., Versailles
Werth, Joseph, Jefferson City
White, Nelson, Jefferson City
Wilbers, Raymond H., Mexico
Willard, Robert R., Columbia
Wilson, George, Columbia
Winn, George W., Boonville

Sixth Councilor District — 12

Boydston, Wayne, Odessa
Campbell, A. J., Sedalia
Cole, William R., Smithton
Davault, G. K., Richmond
Knipschild, B. F., Marshall
LaHue, W. C., Lexington
Magee, Robert L., Eldorado Springs
Maxson, T. Reed, Warrensburg
Meyer, Jerry, Concordia
Moore, Candice A., Nevada
Moore, M. Ted, Nevada
Stockwood, R. C., Sedalia

Seventh Councilor District — 72

Ashby, Jennifer, Kansas City
Bailey, Hugh, Kansas City
Behrends, Steven H., Kansas City
Bickley, James, Kansas City
Bogart, Douglas, Fairway, Kan.
Browne, Jon E., Kansas City
Buchanan, Barbara, Kansas City
Caffrey, R. J., Kansas City
Calovich, Emery R., Kansas City
Case, William F., Kansas City
Curts, Calvin J., Kansas City
Dorzab, William E., Kansas City
Fairchild, Robert C., Kansas City
Fee, Chester F., Kansas City
Flynn, James M., Kansas City
Franklin, Curtis U., Kansas City
Geha, Baham, Kansas City
Germann, Donald R., Kansas City
Gohcen, John R., Kansas City
Goodson, William H., Jr., Kansas City
Goolsbee, Robert L., Kansas City
Hall, John C., Kansas City
Hardy, John W., Kansas City
Hickerson, William H., Independence
Hoech, George P., Jr., Kansas City
Hopkins, James P., Kansas City
Hyde, Lawrence L., Kansas City
Johnson, Dallas A., Kansas City
Johnson, R. L., Kansas City
Jonas, Harry S., Kansas City
Jones, Gale O., Kansas City
Judy, Bernard, Kansas City
Kahn, Marvin, Kansas City
Keitges, P. W., Kansas City
Kelly, Charles R., Kansas City
Kopperman, Mordecai, Kansas City
Layle, John K., Kansas City
Lee, King Y., Kansas City
Lerner, Bruce, Prairie Village, Kan.
Lindgren, Carleton J., Kansas City
Long, Stacy, Kansas City
McCanse, Andrew, Kansas City
McIntosh, Donald E., Kansas City
McKeel, Thomas B., Kansas City
Medlicott, William J., Kansas City
Melia, B. J., Kansas City
Michelson, Richard B., Kansas City
Morgan, David B., Kansas City
Munyan, Addis, Independence
Nicholas, Thomas A., Lee's Summit
Peterson, W. R., Kansas City
Phillips, Thomas P., Kansas City
Piebenga, Larry, Kansas City
Piepergerdes, Larry G., Kansas City
Place, Craig,, Kansas City
Porter, Michael J., Shawnee Mission, Kan.
Raich, Robert A., Kansas City
Reinhardt, G. R., Kansas City
Reister, Dorothy D., Shawnee Mission, Kan.
Roberts, Fred, Kansas City
Sabates, Felix N., Kansas City
Sanders, Donald C., Kansas City
Sauer, Gordon C., Kansas City
Schottman, G. W., Kansas City
Sells, Kenneth J., Kansas City
Throne, Elias M., Kansas City
Volk, George, Leawood, Kan.
Williams, George P., Kansas City
Williams, Paul A., Kansas City
Youmans, Ronald A., Kansas City
Zoller, David D., Blue Springs
Zukaitis, Mark G., Westwood Hills, Kan.

Eighth Councilor District — 64

Al-Shathir, Saad, Joplin
Ancheta, A. A., Springfield
Ash, C. J., Springfield
Ashley, Thomas E., Springfield
Barnhill, Floyd R., Rogersville
Betz, Richard, Neosho
Betz, Robert F., Neosho
Bonebrake, M. D., Springfield
Boone, Martin J., Jr., Springfield
Brian, William J., Springfield
Burkey, Jordan W., Springfield
Campbell, Daniel C., Jr., Mt. Vernon
Ceaser, Danny, Springfield
Ceaser, James H., Springfield
Ceaser, Nancy H., Springfield
Clarke, Michael S., Springfield
Clary, W. F., Springfield
Cooper, C. Wesley, Springfield
Corry, F. M., Springfield
Dandridge Walter C., Joplin
Domann, Darrel D., Springfield
Ferguson, John D., Springfield
Frogge, Jim D., Joplin
Gentry, Michael A., Springfield
German, Walter A., Springfield
Grebe, T. Keith, Joplin
Hall, David W., Springfield
Hall, Durward, Springfield
Hellam, Duane C., Springfield
Hilton, Paul E., Joplin
Huffman, Larry, Branson
Huffman, Thomas L., Branson
Ivy, Berry, Springfield
Janeczko, G. F., Springfield
Jeans, Virgil E., Joplin
Johnson, W. B., II, Springfield
Key, James S., Springfield
Kissell, Richard W., Springfield
Knowlton, Norman P., III, Springfield
LeFevre, Philip J., Springfield
Lurie, Hal, Springfield
McFarland, Rodney, Neosho
Macdonnell, T. M., Marshfield
Menchetti, Don, Springfield
Moore, DeArmond, Springfield
Mueler, Adolph R., Joplin
Neblett, Lew, Springfield
Pearman, Carl C., Joplin
Peterson, Stanley S., Springfield
Quinn, Paul S., Strafford
Shelton, Wayne, Springfield
Singleton, M. A., Joplin
Sullivan, Dan T., Springfield
Trotter,W. Yates, Springfield
Walker, William M., Springfield
Wall, N. R., Springfield
Washburn, Kenneth B., Springfield
White, R. Ned, Springfield
Whitlock, Courtney, Springfield
Willcoxon, Robert L., Joplin
Winsky, Arlen D., Springfield
Wolfe, James B., Springfield
Wooldridge, Wilfred E., Springfield
Wyrsch, Leo M., Springfield

Ninth Councilor District — 12

Bass, Barry J., Rolla
Bhati, Deo K., Salem
Cooper, Claude W., Thayer
Hasek, James A., Mountain Grove
Hasek, O. Martin, Mountain Grove
Huster, Robert M., Rolla
Mayuga, L. G., Cabool
Slahorek, George J., Waynesville
Smith, C. Franklin, Willow Springs
Stricker, E. A., St. James
Wall, Joe A., Houston
Wiles, Jack, West Plains

Tenth Councilor District — 35

Bonifacio, Andres S., Crystal City
Cancelada, Juan V., Farmington
Cento, Donald P., Sikeston
Chapman, Jean A., Cape Girardeau
Datta, Nino, Crystal City
Eller, Gordon W., Cape Girardeau
Fairchild, James F., Perryville
Glenn, T. J., Cape Girardeau
Gray, Walter, Farmington
Griffin, Darrell, Farmington
Hansbrough, E. T., Poplar Bluff
Heeb, Max, Sikeston
Holcomb, John K., Cape Girardeau
Johnson, E. D., Cape Girardeau
Karraker, A., Farmington
Kasten, Mark C., Cape Girardeau
Kasten, Melvin C., Cape Girardeau
Magaletta, G. E., Cape Girardeau
Martin, Andrew D., Cape Girardeau
Martin, Richard A., Cape Girardeau
Master, Ed, Sikeston
Miller, William D., Dexter
Phanijphand, Suwan, Poplar Bluff
Plunk, Otis A., Kennett
Pontillas, Job B., Perryville
Ramirez, Ricardo M., Poplar Bluff
Reed, Martha, Hillsboro
Reimer, Donald, Cape Girardeau
Ridings, G. R., Cape Girardeau
Ritter, Raymond A., Cape Girardeau
Robinson, Ronald L., Cape Girardeau
Seabaugh, William O. L., Cape Girardeau
Shell, William, Sikeston
Swinfard, Ronald W., Cape Girardeau
Turner, Kirby, Poplar Bluff

University of Missouri-Columbia

Student Medical Society — 4

Boland, Michael F., Columbia
Fitzsimmons, Anne, Columbia
Schmidt, Mary Colette, Columbia
Vaughn, Richard, Columbia

University of Missouri-Kansas City

Student Medical Society — 2

Reardon, Jane D., N. Kansas City
Reardon, Tom, N. Kansas City

Washington University

Student Medical Society — 2

Chrusikopoulos, Harris, St. Louis
Molleston, Michael, St. Louis

St. Louis University

Student Medical Society — 8

Berdy, Susan Schukar, St. Louis
DeLong, James W., Maryland Heights
Felton, Chris, St. Louis
Lawson, Craig, St. Louis
Mrad, Richard, St. Louis
Schickendantz, Mark, St. Louis
Schowengerdt, Kenneth, St. Louis
Zehr, Robert J., St. Louis

Guest Physicians — 105

Adler, Morton W., Toledo, Ohio
Ameln, Richard, Ottumwa, Iowa
Anderson, Evelyn B., Kankakee, Ill.
Barkmeier, Joseph, Champaign, Ill.
Bellanti, Joseph, Washington, D.C.
Berry, John, Shawnee Mission, Kan.
Beyer, Todd, St. Louis
Biondo, Ray, N. Little Rock, Ark.
Bonfili, H. F., St. Louis
Byer, Amy J., St. Louis
Catalona, William J., St. Louis
Chambers, Guy, St. Louis
Chopra, Jatinder, St. Louis
Cooper, Thomas J., Santa Barbara, Calif.
Cort, David, St. Louis
Cox, James L., St. Louis
Cox, Susan, Flat River
Creech, Fred, Columbia
Dabe, Susan, Columbia
Dehning, Doug O., Kansas City
Dhingra, Ashok, Columbia
Dockhorn, Robert J., Prairie Village, Kan.
Dunn, Martin J., Olathe, Kan.
Emami, Bahman, St. Louis
Esrig, Harold L., Leawood, Kan.
Ewing, Edwin P., Jr., Atlanta, Ga.
Fahey, Mark, San Rafael, Calif.
Faro, Sebastian, Houston, Tex.
Fennewald, Clarence L., Hixson, Tenn.
Funke, Harold, Pewee Valley, Ky.
Galen, Norman, New Orleans, La.
Galen, Wesley King, New Orleans, La.
Gall, Stanley A., Durham, N.C.
Gerking, Laila, St. Louis
Goldberg, Gerald N., Tucson, Ariz.
Goldstein, Bernard, St. Louis
Goncalves, Valentim, St. Louis
Gregory, James, Belleville, Ill.
Hamilos, Daniel, St. Louis
Hansen, Ronald C., Tucson, Ariz.
Hartrampf, Carl, Atlanta, Ga.
Hernandez, Jorqe, St. Louis
Herrmann, Michael E., Belleville, Ill.
Huf, Wd Nanpal, Mexico
Hutton, Robert D., O'Fallon, Ill.
Jackson, I. T., Rochester, Minn.
Jacobs, Allan, St. Louis
Jaffe, Bernard, Brooklyn, N.Y.
Jamry, Wit, St. Louis
Janis, Kenneth M., Laguna Hills, Calif.
Jobe, Richard R., Seattle, Wash.
Kirby, Jerry, Kansas City, Kan.
Knuppel, Robert A., Tampa, Fla.
Kohli, Nasir, Beleville, Ill.
Keenan, William, St. Louis
Kerby, Gerald R., Kansas City, Kan.
Khan, J., Columbia
Kumar, A. A., Springfield, Ill.
Kumar, V. N., Kansas City
Lang, Richard, St. Louis
Lapidot, Abraham, Springfield, Ill.
Lee, Leander, St. Louis
Lee, Peter C., St. Louis
Leyden, James, Philadelphia, Pa.
Lind, Timothy, St. Louis
McCusker, Kevin, St. Louis
McIntyre, David, Bellevue, Wash.
McKeel, Allen, Pine Bluff, Ark.
Marks, James, St. Louis
Martt, J. M., Temple, Tex.
Miller, D. Scott, Columbia
Mohsen, Aly M., Kansas City, Kan.
Nierenberg, Paul S., Albion, Ill.
O'Doneghue, Marianne, River Front, Ill.
Platt, D. W., St. Louis
Quilhot, Charles, Indianapolis, Ind.
Quintero, Louis J., Quincy, Ill.
Rakel, Robert E., Iowa City, Iowa
Reddy, Vinodini V., St. Louis
Rodriguez, Guillermo, Jr., St. Louis
Rosenblum, Barry, St. Louis
Sabshin, Melvin, Washington, D.C.
Samudrala, Suseela G., St. Louis
Santa Cruz, Daniel J., St. Louis
Schneider, Susan Bromberg, St. Louis
Schnellmann, D. C., Granite City, Ill.
Seth, Suman, O'Fallon, Ill.
Shannon, Michael, St. Louis
Smith, Randall, Columbia
Stewart, W. C., Kansas City
Stone, Harry C., Peoria, Ill.
Sunwoo, In Sook, St. Louis
Tice, Ann, Champaign, Ill.
Till, Harold H., St. Louis
Todd, James S., Ridgewood, N.J.
Tomlin, E. M., Concord, N.C.
Trojaborg, Werner T., Copenhagen, Denmark
Tuter, Peter G., St. Louis
Vaughan, Robert, Chapel Hill, N.C.
Walsh, Richard, Columbia
Waters, C. N., Salina, Kan.
Watts, Russell, St. Louis
Wood, Benjamin, Cleveland, Ohio
Wrenn, Frank, Greenville, S.C.
Wright, Jeffrey M., St. Louis

There were 650 members, 105 guest physicians, 152 exhibitors, 129 MSMA Auxiliary members, 81 guests and 22 staff members. Total registration was 1,139.

126th ANNUAL SESSION EXHIBITORS

Adria Laboratories, Columbus Ohio
C. W. Alban & Company, Inc., St. Louis
American Business Machines Company, Springfield
Automated Professional Management, Inc., St. Louis
Blue Shield — St. Louis & Kansas City, St. Louis
Boehringer Ingelheim Ltd., Ridgefield, Conn.
Computer Professionals Inc., Kansas City
Dodson Insurance Group, Kansas City
Encyclopaedia Britannica, USA, Chicago, Ill.
Forrest T. Jones Company, Inc., Kansas City
Fotomedics, St. Louis
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Future Innovations, Springfield
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Mid-America Computing, Shawnee Mission, Kan.
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Missouri Division of Health/Bureau for Prevention of Mental Retardation, Jefferson City
Missouri Medical Insurance Company, St. Louis
Missouri State Medical Association, Jefferson City
Paintings Unlimited, Ballwin
Parke-Davis, Morris Plains, N.J.
Pfizer Laboratories, New York, N.Y.
St. Luke's Hospital of Kansas City, Kansas City
W. B. Saunders Publishing, Philadelphia, Penn.
Schering Corporation, Kenilworth, N.J.
Searle Laboratories, Chicago, Ill.
Seiler Instrument, St. Louis
SmithKline Clinical Laboratories, St. Louis
Smith Kline & French Laboratories, Philadelphia, Pa.
Social Security Administration, Kansas City
E. R. Squibb & Sons, Inc., Princeton, N.J.
3M Vision Care, Hinsdale, Ill.
United States Air Force, St. Louis
U. S. Army Medical Department, Washington, D. C.
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In lieu of exhibits, the following firms have made cash donations to assist in the sponsorship of Scientific Sessions:

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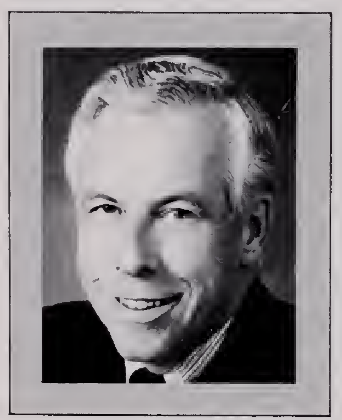
The DRG Experience in New Jersey

by

JAMES M. TODD, M.D.

Ridgewood, N.J.



James M. Todd, M.D.

The accompanying address by James M. Todd, M.D. was presented at the General Session on March 30 during the 1984 MSMA Annual Convention. Dr. Todd was elected to the AMA Board of Trustees in July, 1980 and, in June, 1983, was elected a member of the Executive Committee of the Board. Dr. Todd is a general surgeon.

WHATEVER WE MAY THINK about the new Diagnostic Related Groups (DRG) system, it may well be the most important subject we'll talk about for some time.

DRGs mean many things to many people. Some describe the system as "decent," "realistic" or "good." Others prefer adjectives such as "despicable," "ruthless" and "grasping" when describing the new system. The probable middle ground is where the system is seen as a dubious and risky gamble.

Before looking at specific aspects of the DRG system, we first need to look at how we arrived at where we are today. To a large measure, we are victims of our own success. By virtue of an unpredicated growth in science, technology and patient care, and abetted by subsidy and population shifts, we are now doing more things for more people and the people are the better because of it.

There is virtually no limit to our ability to care for the sick. Health care can expand indefinitely. But, this infinite ability has produced many unanticipated problems, the most acute of which is the realization that our resources are not unlimited. Very rapidly, cost has become the number one problem.

The increase in cost really shouldn't surprise anyone. If the composition and age of the population is changing and if we are doing more things for more people, and if the life span and its infirmities are increasing, of course it is going to cost more!

But suddenly, those who have promised so much — government, industry, insurance companies, etc. — now find they can no longer comfortably bear the cost. And, in a shaky economy, they must do something about it. Make no mistake. They will. What we have to fear most is a bottom-line mentality that ignores quality and access for the sake of cost.

To some degree, we have contributed to this problem and we surely need to participate in its solution. While we must stand fast on issues of quality and access, we must also get "our own house in order" cost-wise. And, as yet, it is not.

The medical profession is not Simon-pure. We can demonstrate our true concern by voluntary reductions in fees and by the results of our cost effectiveness programs involving physicians and hospitals.

There is fat in the system, and we need to deal with it. Furthermore, we cannot, and probably should not, do everything scientifically possible for everyone all the time. Our responsibility is to develop a cautious and thoughtful use of resources based on what we need to accomplish and not on the basis of doing everything possible regardless of consequences.

Seventy percent of health care costs are generated as the result of physicians' decisions — the result of what we decide our patients need. The great percentage of these costs come from what we do in hospitals. If HMOs have proven nothing else, they have proven that they reduce cost primarily by reducing hospitalization. Inescapable then is the realization that if we are to avoid a collision of economic interests, hospitals and physicians can no longer afford to go separate ways. Hospitals need physicians; physicians need hospitals; and patients need us both.

When hospitals and physicians do go separate ways, they often do terrible things to each other. They compete in many ways and appear to have different objectives, when in reality our goal is and should be the same — effective, efficient and economical patient care.

Now, for the first time, the economic security of our profession and the quality of care we provide depends on this cooperation. David Kinzer of the Massachusetts Hospital Association recently said, "The changes wrought in hospitals' incentives will certainly create new problems in hospital-medical staff relations. Now, the incentives in our fee-for-service medical payment system that reward physicians for doing more are clearly in conflict with those of the hospital. The need for physician understanding, cooperation and support is critical if the hospital is to survive."

In the 1970s, a group at Yale University attempted to segregate patients into groups that would have equal expected lengths of stay and consumption of resources. Initially, they wanted to measure quality control. However, there were those who believed reimbursement could be based on these groupings as well. The DRG system was converted into a prospectively determined reimbursement system that uses hospital case-mix in an effort to establish a stronger link between the resources a hospital consumes and the actual medical needs of the patient. Theoretically, patients in each category, on average, are medically similar in terms of resource consumption.

Under the DRG system, each hospital patient is assigned to one of the 468 DRGs based on principal and secondary procedures and, in some cases, age. The hospital is then reimbursed a prospectively determined rate for all patients in each group regardless of the length of stay or the amount of services provided.

Reimbursement becomes a single payment for the DRG regardless of the variation in actual services provided. Presumably, the rate reflects the average actual cost. If the hospital provides the care less expensively, it sees a profit. If the hospital spends more in resources than the DRG group allows, then it must bear the loss.

This clearly presents a rather strong change in incentives and a broadening of interest in what and how much goes on in the hospital. A survey of hospitals in New Jersey revealed several points of agreement including the following:

The method of allocating costs was reasonable.

There was uncertainty as to the system's ability to control costs.

DRGs led to the expansion and automation of data processing.

Eighty percent of the hospitals promptly involved their medical staffs.

Administrators indicated confidence that DRG management reports will improve control over our hospital operation.

Since New Jersey received a waiver from HCFA to include Medicare/Medicaid, the federal authorities had an interest in the program and, indeed, helped finance its implementation. Faced with evermore difficult economics of health care, the Congress could not wait for the outcome in New Jersey. President Reagan signed the Social Security Amendments of 1983 in April, 1983, mandating prospective reimbursement according to DRG for Medicare. It became effective Oct. 1, 1983.

Basically, the new system will involve payment of a fixed amount per discharge based on diagnosis. All hospitals will be covered except children's, psychiatric, rehabilitation and long term. These parts of a general hospital may also be excluded if the hospital so requests.

The new system will be phased in over a three-year period. In the first year, 75% of hospital specific cost/care-plus and 25% of regional average price will be phased in. In the second year, 50% of hospital specific cost/care-plus and 37.5% of regional average price and 12.5% of national average price will be phased in. Finally, in the third year of implementation, 25% of hospital specific cost/care-plus, 37.5% regional average and 37.5% of national average price will be phased in. In addition, when the program is fully in place, payments will be based on the urban or rural national average price for each DRG and adjusted for differences in area wages.

The process of rate determination is a complicated eight-step process with nine regional groups that are further divided into urban and rural. Appeals to the system may be sought only on calculations and not on conclusions if the calculations were correct. Furthermore, an HHS report suggests the possibility of including physician payment under the DRG system beginning in 1985.

After almost three years' experience with this program in New Jersey, I cannot tell you whether this is a good program, a bad program, whether or not it saves money or whether or not it has any effect on quality.

These answers are not yet available. This is why the AMA has urged a slow and cautious approach in its testimony to Congress. However, at this point, I can tell you three things. First, more hospitals are now in the black. Second, DRGs have a profound effect on the way hospitals now do business. And, finally, the relationship between the medical staff and the administration is changing now, at least in those hospitals that realize their entire economic future rests on how well they implement the system in cooperation with the medical staff. Unfortunately, some hospitals have not yet reached this realization.

Most likely, there is no system that is all good or all bad. Prospective pricing is no exception. If nothing else, prospective pricing will force hospitals and physicians to look at what they are doing and how much they are doing. For the first time, hospitals need to look at their true cost centers and bring them into line. There can be no more "robbing Peter to pay Paul."

Certainly, cost accountability is not all bad. And, for the first time, under this system, data is available to show physicians how they individually contribute to a hospital's cost and efficiency on a per-case basis. Most basically, this becomes a measure of resource consumption and affords comparisons between individual physicians and between hospitals.

Viewed in this fashion, the system really can tell us what we are doing, how much we are doing, and how much it costs individually and collectively.

It would be difficult to argue with the value of this information. When applied as a reimbursement mechanism, however, there is the opportunity to adversely manipulate the system resulting in unconscionable cuts in payments and in having undue and potentially damaging influence on physician practice and reputation. This is to say nothing of depriving patients of needed care by reducing payments to a level at which a hospital may not be able to continue a needed service.

From a very practical point of view, the system requires much, such as an automated data system, extensive additions to record rooms, accuracy and speed of the records and coding, and a sophisticated financial department. For the individual physician, the system means inceased scrutiny in relation to cost, as well as quality, and a review of departmental and individual performance. The system also means increased pressure from the hospital administration to stay within the DRG and yet, at the same time, keep the occupancy up. It also means tight capital budgets and elimination of marginal services.

Now, when one looks at the potential for abuse or better circumnavigation by providers trying to beat the system (and, of course, with regulation, that's how we survive) one has great cause for concern. The system brings along with it the increased possibility of physicians skimming the good cases and refusing others. We may see more cost shifting to other payors. There will be an increased likelihood that physical plants and equipment will be neglected. There will be the possibility of neglecting, or even eliminating, education and/or research because it provides little immediate economic return. There may be manipulation of cases for early patient discharge and pressure to readmit patients under another DRG. Accommodations may not be available for patients who are heavy utilizers of hospital resources. Physicians may be "ostracized" if they are found to be responsible for excessive costs to the hospital.

These are only a few of the more blatant potential shortcomings of the system. Probably, the thing to be feared most is the merchandising of health for purely economic reasons. It well may be that the cost per case will decline and the length of stay will shorten, but to what advantage? It is possible, I suppose, that by increasing demand through merchandising (which is, perhaps, a euphemism for competition), the number of patients treated will increase and health care costs will continue to rise in the aggregate as well.

The new health commissioner in New Jersey said that if DRGs fail, the only thing left is socialized medicine. And, you know, he may be right. So, while prospective pricing has some ominous overtones, it also has the potential for increasing quality accountability as well as cost accountability. It is our responsibility to be sure that prospective pricing, for the sake of the economy, is not used as a tool to strangle our ability to care for patients.

These new Medicare regulations, by moving to cap hospital revenues on a per discharge basis and by capping ancillary service utilization, virtually demand that physicians and hospitals work together to restrain patient length of stay and reduce ancillary utilization. We are encouraged to do this, not by changes in incentives to physicians (although this may be the next step), but by recognizing that we will be penalizing our hospitals if we fail to cooperate. Hospitals with poor medical staff relations or a history of poor communications will suffer under these regulations.

Hospitals can help develop and finance, without necessarily owning or controlling, some of the forms of ambulatory care physicians are interested in providing. They can help physicians organize and market their own professional corporations to compete as IPAs, PPOs, or other, for patient business. In the appropriate spirit of cooperation, hospitals can reinforce the private

(Continued on page 412)

DOUGLAS G. VIEHLAND, *Columbia*

Preferred Provider Organizations

Part III — An Excerpt From a Study of Missouri Health Maintenance Organizations, Preferred Provider Organizations, Hospital Satellite Clinics and Freestanding Emergency Care Centers

"*Resolved,* that the Missouri State Medical Association, through its Commission on Medical Economics, Third Party Medicine and Governmental Relations, monitor Health Maintenance Organizations, Individual Practice Associations, Preferred Provider Organizations and hospital satellite clinic practices in this state for the next five years, reporting annually to the Council on the extent of this type of activityand assess, as far as possible, the overall impact that it has on the medical profession in the State of Missouri."*

The above Resolution #2 was adopted at the 1982 Annual Convention of the Missouri State Medical Association. The first part of the five-part series was presented to the MSMA Council in January, 1983. It set forth definitions to be used throughout the series and a directory of all known entities.

Part Two was completed in March, 1984 and provides the results of an indepth survey conducted during the summer and fall of 1983. The survey was made of these entities to learn how they are structured, their length of operation, the benefits and services offered, and their financial operations.

While the full report is available to MSMA members, a summary of this report will be presented in Missouri Medicine. In this issue, the third part of the four-part series examines preferred provider organizations. Part IV is scheduled to appear in the September issue of Missouri Medicine.

At the time this survey was conducted, Mr. Viehland was Director of Government Relations for the Missouri State Medical Association. On June 1, he assumed the assignment of Executive Director of the Boone County Medical Society, Columbia.

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* In 1982, the Commission on Medical Economics broadened the scope of the entities to be studied to include freestanding emergency centers.

Just as the 1970s were witness to the development of the competitive creature known as the HMOs, the 1980s have already given birth to a new competitive creature referred to as the Preferred Provider Organization (PPO). In many ways, the PPO is a response to increasing competition in the local market. The availability of HMOs or a surplus of physicians and/or hospital beds offer incentives for providers to enter into such agreements. The PPO can also be the tool and/or leverage for a large employer or group of employers to negotiate with health care providers using their large employee base as the carrot to negotiate discounts and, hence, reducing employer costs of providing health care. As the "new kid on the block," there are far more questions as to the PPO impact than there are answers. Some providers consider PPOs to be the salvation of the private practice of medicine while others have seen this trend as its demise. It is in this environment and the corresponding confusion that PPOs begin. A "track record" will be necessary to know the answers.

For the purpose of this study, a PPO is described as follows:

> A group of medical care providers who contract with employers, insurance carriers, or third party administer to provide comprehensive medical services on a fee-for-service basis to subscribers. The PPO provides a negotiated fee schedule (frequently, but not always considered a discount) and a utilization review mechanism to the insuring entity in return for an enlarged patient base or other incentives, such as quick reimbursement of bills. Economic incentives such as the waiving of co-payments and deductibles are incorporated to encourage patients to utilize the preferred provider. However, at no time is the patient required to use the preferred provider.

A further explanation of a Preferred Provider Organization is found in a recent publication of the American Medical Association entitled, "A Physician's Guide to Preferred Provider Organizations." This publication is a third in a series on Alternative Health Care Delivery Systems published by the AMA. This publication is highly recommended for the physician, businessman, public official or lay person who seeks a better understanding of PPOs and how they operate.

In the first part of this study, the MSMA noted that while several PPOs were in the discussion stage, there were no PPOs operating in Missouri. Three PPOs are now offering their services in Missouri with another three preparing to become operational in 1984. All three operational PPOs are located in Kansas City. One developmental PPO is located in Kansas City and two are located in St. Louis. Two organizations are hospital sponsored, two are physician sponsored, and two are sponsored by the two Blue Cross/Blue Shield organizations in Missouri. The following PPO's were identified as of March, 1984:

Preferred Health Professionals 6601 Rockhill Road Kansas City, MO 64131 (816) 361-0133	Kathleen O'Connor Executive Director
Preferred Care Blue Cross & Blue Shield of Kansas City P.O. Box 169 Kansas City, MO 64141 (816) 561-2300 Ext. 4572	Bill E. East Director, Provider Affairs
Preferred Medical Incorporated 10551 Barkley, Suite 120 Overland Park, KS 66212 (913) 648-6670	Rod Cart Vice President-Marketing Donald Pletz, M.D. Chief Executive Officer
Deaconess Preferred Provider Organization Deaconess Hospital 6150 Oakland Avenue St. Louis, MO 63139 (314) 645-8510 Ext. 2753	Lawrence M. Millner, PhD. Director of Planning Deaconess Hospital (pre-operational)
Greater Kansas City Associates in Psychiatry 4400 Broadway, Suite 202 Kansas City, MO 64111 (816) 561-2025	Barbara Buchanan M.D. Board of Directors-liaison (pre-operational)
(unnamed organization) Blue Cross and Blue Shield of St. Louis 4444 Forest Park St. Louis, MO 63108 (314) 658-4444	Mr. Robert Berra Senior Vice-President for Marketing Mr. Ken Topfritzhofer Vice President for Professional Affairs (Preoperational)

Because the availability of PPOs in Missouri is such a recent occurrence, an indepth survey of these entities has not been conducted. As a "track record" is developed, a survey may then be conducted and may then answer the many unanswered, or even as yet unidentified, questions.

The DRG Experience in New Jersey

(Continued from page 410)

practice of its medical staffs without needing to control them.

The premium is now on cooperation at all levels. State and local medical associations and hospital associations can work together to broaden the understanding of the changing economic pressures affecting them. Don't underestimate the enormous power of these two groups when used cooperatively to alleviate the inequity and loss of access to care affecting our nation's citizens.

Seeking to develop a productive economic partnership between hospital medical staffs and administration is probably the most urgent task before us. Hospitals and physicians must work together to capitalize on the strength of each. The opportunities for leadership have never been greater.

If physicians and hospitals can learn to work cooperatively in a time which seems to push them toward conflict, a better health care system will result. With this cooperation can come a sense of restraint and responsibility that will allow the continued translation of technical progress into human progress.

Now that the DRG Prospective Reimbursement System has been thrust upon us as a challenge, we must accept it. Although we may not approve of it and although we may believe it will reduce the quality of patient care, we must try to cooperate with it until such time that hard data are available.

A profession so quick to accept scientific change must be willing to accept the consequences of that change.

Introducing Our New MSMA Members

Hubert F. Bonfili, M.D., 800 N. Lindbergh Blvd., St. Louis 63167, has become a member of St. Louis Metropolitan Medical Society. Dr. Bonfili is a native of Pittsburgh, Pa., received his preliminary education at Lowell Technological Institute and his M.D. degree at St. Louis University in 1969. He specializes in aerospace medicine, occupational medicine and family practice.

Renee C. Dolan, M.D., 5535 Delmar Blvd., St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Dolan is a native of Orange, N.J., received her preliminary education at Northwestern University and her M.D. degree at Washington University in 1979. She specializes in internal medicine.

Joseph J. Goetz, M.D., Suite 340, 2928 Main, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Goetz is a native of Kenosha, Wis., received his preliminary education at Marquette University and his M.D. degree at the Medical College of Wisconsin in 1976. He specializes in diagnostic radiology.

Magaral S. Hari, M.D., Suite 5, McClelland Blvd., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Hari is a native of India, received his preliminary education at Madras College and his M.D. degree at Madras College in 1974. He specializes in anesthesiology.

Lois J. McKinley, M.D., Suite 310, 2929 Baltimore, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. McKinley is a native of Elkhart, Ind., received her preliminary education at the University of California and her M.D. degree at Louisiana State University in 1980. She specializes in internal medicine.

Daniel Phillips, M.D., 18 N. Taylor, Apt. 25, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Phillips is a native of New York City, N.Y., received his preliminary education at Northwestern University and his M.D. degree at Washington University in 1980. He specializes in neurology.

Lakshmy S. Rajagopalan, M.D., Mercy Pediatrics, 621 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Rajagopalan is a native of India, received her preliminary education at Wadia College and her M.D. degree at B. J. Medical College in 1976. She specializes in pediatrics.

Donald M. Schaffer, M.D., 1314 1st St., Kennett 63857, has become a member of Dunklin County Medical Society. Dr. Schaffer is a native of Sikeston, received his preliminary education at St. Louis College of Pharmacy and his M.D. degree at the University of Missouri-Columbia in 1977. He specializes in obstetrics and gynecology.

Valerie Schaffer, M.D., 1314 1st St., Kennett 63857, has become a member of Dunklin County Medical Society. Dr. Schaffer is a native of Ft. Huachuca, Ariz. She received her baccalaureate and M.D. degrees from the University of Missouri-Kansas City School of Medicine in 1982. She specializes in general practice.

New Student Members

St. Louis University

George J. Despotis
Douglas T. Miller

University of Missouri-Kansas City

Laura L. Dill
Kyle Peter Etzkorn
Bradley L. Freilich
Eric A. Sieck

Washington University

Howard M. Yerman

Correction, Please!

In the May, 1984 issue of Missouri Medicine, Dr. Sunil M. Apte's specialty was listed as general surgery. Please note that Dr. Apte's specialty is urology. His address is 800 E. 5th, Suite 305, Washington 63090.

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In Memoriam

Owen W. D. Craig, M.D., 3408 Colony Square, St. Joseph 64506; graduate of St. Louis University, 1929; member of Buchanan County Medical Society; aged 81; died May 15, 1984.

Ellsworth Kneal, M.D., 725 S. Skinker Blvd., St. Louis 63105; graduate of St. Louis University, 1912; member of St. Louis Metropolitan Medical Society; aged 94; died May 15, 1984.

Christiana V. Hammler, M.D., St. James 65559; graduate of St. Louis University, 1914; member of Mid-Missouri Medical Society; aged 99; died May 19, 1984.

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Missouri Medicine

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Whichever the doctor prescribes...

MOMEDICO now offers Missouri physicians their choice of professional liability insurance: either "modified claims-made" coverage or "occurrence" coverage.

1. **MOMEDICO occurrence coverage** protects against all claims arising from professional services rendered during the policy's term, **including those claims made after the policy is no longer in effect.**

MOMEDICO has underwritten occurrence coverage since the company's formation in 1978. And hundreds of Missouri physicians have selected it.

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PROGRESS NOTES

missouri state medical association

AUGUST 1984

Penalty statement to be eliminated

The DRG penalty warning would be eliminated from Medicare patient records under a new regulation proposed by the Department of Health and Human Services in the July 3 *Federal Register*.

Under the existing requirement, the attending physician must sign a statement certifying that the diagnoses and procedures have been accurately identified. The statement also lists the punishments for Medicare fraud.

The newly proposed rule requires the physician to sign a statement vouching for the narrative description of the diagnoses and procedures. The penalty warning would not appear on the statement. Each year, the physician would sign a statement indicating that he or she is aware of the penalties for misrepresentation. This statement would be kept on file by the hospital. Federal officials said this documentation is required by the Justice Department in order to prosecute those who attempt to defraud the system.

The revision of the rule comes after objection from the AMA and physicians who said the attestation tended to impugn the integrity of the profession.

Book tells AMA story

The history of the AMA is being published in *The AMA and U.S. Health Policy Since 1940*, a book that should be available by fall in bookstores.

Written by Frank D. Campion, a former *Life* magazine reporter who joined the AMA staff in 1970, the book records the AMA's role in changes made since World War II, not only in U.S. health care policy but also economic policy.

Public Affairs Commission

Publications given recommendation

The MSMA Commission on Public Affairs recommended the publication and distribution of several informational pamphlets for doctors and their patients at a meeting July 7 in Columbia.

In other business, the commission approved proposals for a seminar to help doctors talk to the media and a seminar to teach the fine points of Workers Compensation and Social Security Disability laws.

Among the publications discussed by the commission was a brochure on alternative treatments for breast cancer, which is currently in production. Physicians for the MSMA and the American Cancer Society are now evaluating the wording of the brochure. When finished, the brochures will be distributed free to MSMA members for their patients. The information on breast cancer treatment alternatives is required by law in 15 states. The MSMA believes, however, that a voluntary program of information dissemination is preferable.

The commission also proposed the production of brochures on DRGs and on alternative health care plans, which would include information on health insurance, HMOs and PPOs. The physicians agreed that this information would be useful to most patients, who may be confused by the health care alternatives available today.

To help doctors communicate more effectively with the media, especially the electronic media, the commission approved a proposal to hold communication-training seminars for MSMA members. These courses,

(continued on page 4)

Medical Economics Commission

New Medicare laws discussed

Changes in Medicare Part B customary and prevailing charges were the main topic of discussion at the July 21 meeting of the Commission on Medical Economics, Third Party Medicine and Governmental Relations.

In a report to the commission, a representative of General American Insurance Co. outlined the details of the changes in physicians allowable charges under Medicare Part B. A summary of the report's major points follows:

- There is a freeze on customary and prevailing charges for the next 15 months.
- Any Medicare claim dated July 1, 1984, or after, that includes a clinical laboratory service, is being held with no payment, due to changes in the prevailing amount.
- If a physician does not accept assignment on clinical lab services, then he will receive only 80% of the 60th percentile of the amount, and may bill the patient.
- Independent labs must bill separately for any service they perform. (The only clinical services for which physicians may bill are those performed in the office.)
- Part A Medicare will soon be reimbursing outpatient hospital labs at the 62nd percentile of Part B prevailing charges.
- Starting in June, information on physician participation/physician fees will be sent out to explain the new requirements to physicians.

(continued on page 3)

Telenet adds services

The Telenet Medical Information Network has added a new service featuring several free services to physicians.

Phycom, a commercial drug data base developed by Fisher-Stevens, Inc., offers medical news bulletins, sample requests, and PDR information on sponsored drugs with no line charges.

The AMA-Network has added another option to the medical information data bases available to physicians. This on-line computerized system includes a number of informational data bases to choose from, including drug, disease, CPT-4 codes, clinical literature, Category I CME credits, and Med/Mail.

For more information about the system, contact the Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102, or call 314/636-5151.

Tip of the Month

Here's an idea from Connie Brickson of St. Vincent's Hospital in New York, NY, to help take care of past-due accounts:

"At the end of each day, our computer prints out the next day's appointment schedule . . . along with any outstanding patient balances and each patient's 'accounts receivable status.' The printout is given to the Accounts Receivable manager, as well as to the receptionist and medical people. The manager may then 'greet' the patient before he or she sees the doctor, take care of any insurance or other billing problems and either collect the money or make definite collection plans. While this idea is especially easy for computerized offices, it can be adapted for offices with manual systems, too."

Copyright, *The Doctor's Office*, 24 W. King St., Lancaster, PA 17603.

Foundation set to begin as PRO

The Missouri Patient Care Review Foundation, established by joint action of the Missouri State Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons, has been awarded the contract to be the PRO — Peer Review Organization — for the State of Missouri. The Federal legislation in the TEFRA act of 1982 discontinued the PSRO program and instituted the PRO program, the purpose being, of course, cost containment. Organized medicine feels that only by being a part of the process can any adverse effect on quality of care be defended against the onslaught by the cost-cutters. However, the Federal program has mandated a number of items that will have to be reviewed by the Foundation. These were pre-contract conditions — items that were required to be investigated or reviewed by the Foundation. The last six items are more in keeping with quality of care, focusing on prevention of hospital-acquired infections, appropriate use of antibiotics and investigating the disparity of numbers of gastric resections for conditions other than malignancy noted in various areas throughout the State of Missouri.

While no one could be foolish enough to say that the method of payment or non-payment does not influence the manner in which care is delivered, those of us now representing the Foundation contend that the patients in Missouri will not be cast adrift just because the federal program does not permit payment beyond some measurable stage. If continuing care is needed, a method must be found to satisfy that need. As physicians, our responsibility is to the patient — as members of society we must find a way to deliver care at a price acceptable to that same society. This is our challenge.

— Dr. T. J. Cooper

Participating/Non-participating

Law creates new physician categories

On June 27, 1984, the houses of Congress voted to adopt H.R. 4170, the Deficit Reduction Act of 1984.

This bill contains several sections relating to physicians, including Section 2306, Limitation on Physician Fee Prevailing and Customary Charge Levels; Participating Physician Incentives.

Under this section, a new category of physicians is created — "participating physicians." These are physicians who agree to accept Medicare assignment for all Medicare claims for all Medicare patients.

Any physician can become a "participating physician" by entering into an agreement with the Secretary of HHS. The agreement will last for one year, and only be entered into during an election period once each year. New physicians and physicians who move to a new area can enter into such an agreement at any time.

Incentives available to participating physicians under this bill include the physician's inclusion in a list of "participating physicians," and a toll-free hotline to inform callers of participating physicians in the area.

Electronic billing of claims (where the Part B carrier has such capability) will also be available. Physicians will have the ability to bill a patient's Medicare supplemental insurance carrier (Medigap) for the full Medicare-allowed amount. The Medigap carrier will collect the basic coverage from Medicare.

A description of other provisions of the bill follows:

For All Physicians —

- Customary and prevailing charge levels recognized by the Medicare program will remain frozen at the level recognized on June 30, 1984, until October 1, 1985. (This eliminates the increase scheduled for July 1, 1984, and postpones the increase scheduled for July 1, 1985, and also sets a reduced basis for updates beginning after the 15-month freeze.)
- Carriers will be required to develop a list indicating the percentage of claims accepted on an assigned basis by all physicians.

For Participating Physicians —

- During the 15-month freeze, participating physicians can bill Medicare their customary charges. While the Medicare-recognized prevailing and customary charges will be frozen, any increases in the physician's billing will be considered in updating the customary charge profile of the

(continued on page 4)

Keeping communications open

The MSMA Communications Department has produced a number of publications for you and your practice, available free or at cost to MSMA members.

■ **Cost Containment** — This popular brochure addresses the issue of rising health care costs. "You and Your Physician — Partners in Reducing Health Care Costs" makes good-sense suggestions to help patients keep their own health care costs down, and explains what doctors are doing to contain costs. These brochures are available at 10 cents each.

■ **Patient Surveys** — For your waiting room or as an enclosure in billings, these small brochures are designed to elicit honest opinions about your practice from your patients. The answers to the quick survey can provide you and your staff with valuable feedback regarding the operation of your practice. Available for 10 cents each.

■ **Medical Records Brochure** — These sturdy, covered booklets serve as an all-in-one record of immunizations, surgeries, allergies, insurance, and family history. Useful to all patients, young and old, the booklets are available for 15 cents each.

■ **MSMA Membership Certificate** — These new and attractive certificates are printed on a strong gray textured paper and are excellent for framing. Each year you will also be sent a small annual sticker to apply to your certificate to keep it up-to-date. Available free upon request.

■ **Public Relations Brochure** — This brochure outlines some simple steps every physician can take to improve communications with his/her patients. It also outlines some helpful communication tips for your office staff to apply to improve your image with patients. Available free upon request.

■ **Physician Public Relations** — This free packet of information outlines three specific steps physicians can take to improve communication with patients. The packet includes a sample of a patient survey and a patient information brochure.

■ **Medical Messages** — Each month, the MSMA Communications Department produces two medical columns on a wide range of topics such as breast cancer, AIDS, caffeine, Herpes Simplex, high blood pressure and asthma. These illustrated articles, on coated print paper, are available to physicians at an annual cost of $12. Each subscribing physician will receive two articles a month that may be displayed or reproduced for distribution to patients.

Send your order to the Communications Department, Missouri State Medical Association, 113 Madison Street, P.O. Box 1028, Jefferson City, MO 65102. Make checks payable to the Missouri State Medical Association.

★ Medical Economics Commission

(continued from page 1)

- Non-participating physicians will not be allowed to raise fees after computing of the "base period" has been established through October 1985.

It was reported that the prescription limitation, published in the Missouri Medicaid Bulletin of February 27, 1984, is still in effect. The planned reduction of the limit from five to four per month will not be implemented.

Medicaid policy still does not cover Friday and Saturday admissions, unless an exemption applies, as noted in the Physicians Bulletin of May 14, 1984. Sunday is not considered a weekend day for admission purposes.

A representative from the Department of Social Services reported that Medicaid "fairs" have been planned as quarterly events in the next year. The fairs are designed to instruct physicians in filling out and filing Medicaid claim forms.

The commission also heard a report on the prepaid health plan now operating in Jackson County. The plan, designed for the Aid to Families with Dependent Children program, was started in January 1984 and expanded in April. Patients are given the choice of five prepaid programs or a physician-sponsored program. Participation is now about 9,000, with a rise to 38,000 projected.

DOH director explains new rules

A new law that requires the reporting of all cancer cases in Missouri goes into effect in August.

In a recent letter to the MSMA, Robert L. Hotchkiss, M.D., director of the Missouri Division of Health, explained several points about rules governing the reporting of these data.

"We recognize that most physicians do not presently record the required epidemiologic data in their history and physicals," Dr. Hotchkiss said. "Each hospital has the option of designing its own system to most effectively collect the information. Field testing of the proposed rule indicates that the information can most efficiently be obtained from the patient during his/her hospital stay; it may be gathered by the physician, social worker, nurse, medical record technician or other designated individual. Implementation of the system will require full cooperation of hospital staff and will no doubt improve with continued use."

Dr. Hotchkiss also explained that the lifestyle and environmental information collected will be used to investigate the etiology of cancer in Missouri citizens. Recommendations on the type of data needed were made by the ad hoc advisory Cancer Reporting Subcommittee, based on Missouri's information needs and other nationwide data-collection systems.

The director said staff of the Missouri Cancer Registry will soon contact individual hospitals, offering training for personnel designated to collect and submit data; resource materials that detail guidelines for instituting hospital-based reporting; individual problem-solving via telephone or site visits, and other services.

"We recognize that hospitals are increasingly cost-conscious and need to operate with optimal efficiency," Dr. Hotchkiss concluded. "The Division of Health intends, wherever possible, to minimize the burden of cancer reporting."

AMA seeks input on PPS experience

The AMA's DRG Monitoring Project was launched in May as an attempt to assess the impact of the new Prospective Pricing System (PPS) on physicians and hospitals.

Physicians are asked to contact the AMA if they have any pertinent observations, comments, or information about problems or improvements they may have experienced since the system was implemented. Supportive documentation, if available, should be included with the communication.

Written comments may be sent to AMA's DRG Monitoring Project, Department of Health Care Resources, P.O. Box 10947, Chicago, IL 60610.

The short-term, broad-based study will provide the AMA with information for developing programs to assist practicing physicians in dealing with the PPS. The AMA will also use the data in pursuing appropriate modifications to the system.

Current AMA House of Delegates policy places a high priority on monitoring, evaluating, and assessing the results of implementation of PPS on the quality, costs and availability of medical care.

St. Louis to host insurance seminar

The St. Louis Metropolitan Medical Society, 3839 Lindell Blvd., will be the location of a Patient Safety Program - *Practice Without 'Mal'* - on September 5, 1984.

The program, being co-sponsored by the Society and MOMEDICO, will be held from 1 - 8:30 p.m. and will feature prominent local attorneys, physicians, a judge and staff members of MOMEDICO. Topics to be discussed include informed consent, medical records, office staff protocol, recent court cases, and a professional liability lawsuit from the viewpoints of the defendant physician, defendant attorney, and from the judge.

The program has been accredited for 6 CME credits. The cost is $50.00, which includes dinner. For more information call Kim Wolterman at MOMEDICO, 800-392-2617, 314-241-4774.

★ Medicare changes

(continued from page 2)

participating physician at the end of the freeze. (Note: While the physician's customary charge may increase, future reimbursement will still be controlled by the prevailing charge limit adjusted to the "economic index.")

For Non-Participating Physicians —

- Non-participating physicians will not be allowed to have any charges recognized for the purposes of their individual customary charge profile during the 15-month freeze that are higher than those charged by physicians during April, May, and June of 1984.
- They will be subject to civil money penalties (up to $2,000 per violation) and possible exclusion from Medicare (up to five years) for knowingly and willfully billing patients enrolled under Part B for "actual charges in excess of the physician's charges" for the months of April, May, and June of 1984. The HHS Secretary would be allowed to use funds collected as civil penalties as "restitution" to the beneficiary for overcharges. The Secretary is prohibited from barring a "sole community physician or sole source of essential specialized services in a community."

AMA officials have expressed their pleasure that the Congress has not adopted a mandatory assignment process for payment to physicians who treat Medicare patients. At the same time, they are concerned about the incentives for the categories of "participating" and "non-participating" physicians and the impact of these provisions on patient care.

The AMA Board of Trustees has expressed its hope that physicians will

- continue to act as advocates for the patient at all times,
- understand that nothing in the proposed law requires that they change the way they treat their Medicare patients,
- keep faith with the public and encourage Congress to rethink its actions in order that it fulfill its obligations to the public under Medicare,
- join those members of Congress who share medicine's concern that a small minority of physicians have broken faith with the public through their fee practices, and that Congress give organized medicine the tools to deal with those few physicians, and
- resist the temptation to raise their fees simply because of this new congressional action.

★ Public Affairs Commission

(continued from page 1)

conducted by AMA personnel, are designed to give on-camera experience to physicians, and to train them in handling media questions more adeptly.

A proposed seminar on Workers Compensation and Social Security Disability laws was approved by commission members, who recommended that the course be included in offerings at the MSMA annual meeting.

In other action, the commission recommended that all MSMA publications and press releases include the phrase "from the Missouri State Medical Association and your local medical society," to bring such communication down to the local or county level. Members of the commission also approved the investigation of a public relations program that would be paid for by the MSMA and local societies. The conjoint effort would be directed toward promoting member physicians.

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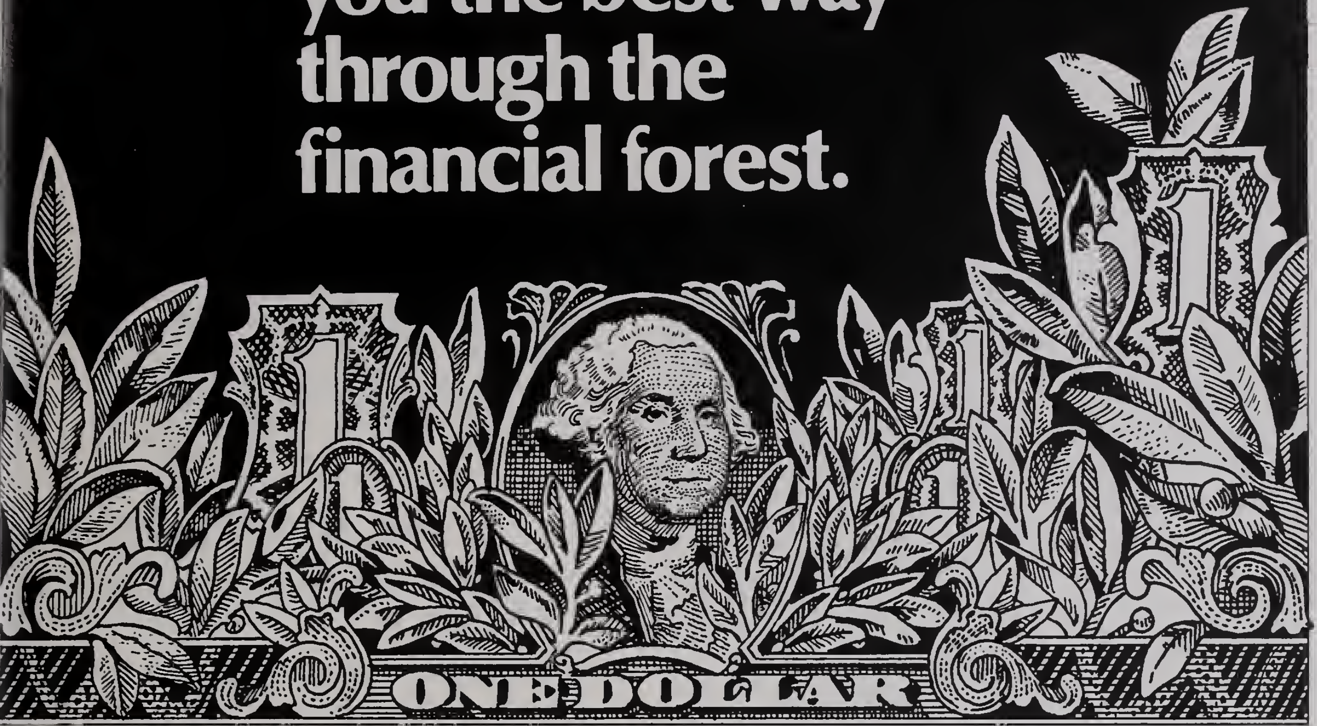

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The **ALPHABETICAL ROSTER** on **PAGE 437** includes each member's component society name and code number. A list of component society code numbers appear on page 425.

In the **COMPONENT SOCIETY ROSTER** beginning on **PAGE 475,** the primary specialty appears after the member's name and address. **Please note that phone numbers are now included.** See page 435 for explanation of specialty codes.

MSMA AUXILIARY

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For other departments, please refer to the table of contents above.

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Missouri Medicine

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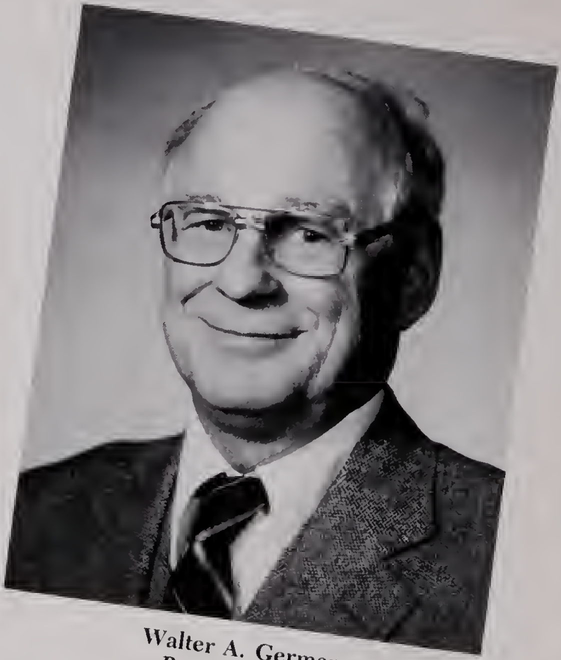
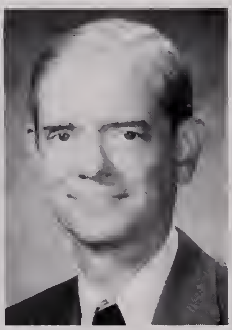


Walter A. German
President-Elect

Missouri State Medical Association



Jordan W. Burkey
Editor

Hubert A. Ritter
AMA Trustee

Purpose of Association

THE PURPOSE of this Association is the promotion of the science and art of medicine, the protection of public health, the betterment of the medical profession, the organization of its membership for negotiation and collective bargaining purposes, and, by uniting with similar organizations in other states and territories of the United States, to form the American Medical Association.

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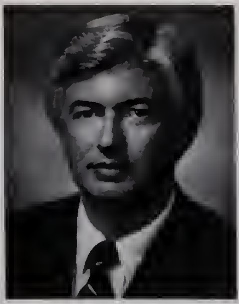
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Vice-President

Max A. Heeb
Vice-President

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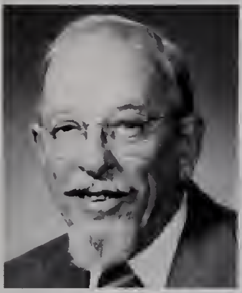
Vice-President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Vice-Speaker

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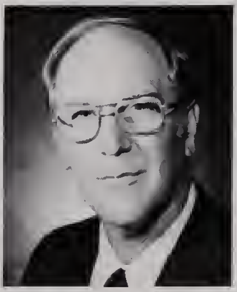
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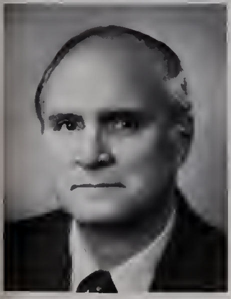
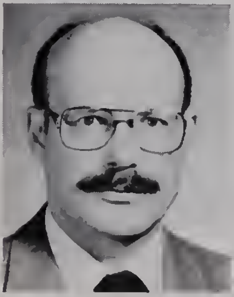

Vernon Balster
St. Louis


Martin L. Crow
Kansas City

Marvin A. Singleton
Joplin

Richard V. Bradley
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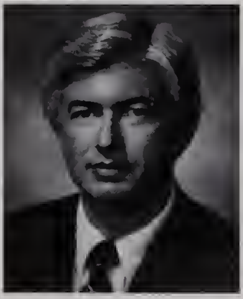
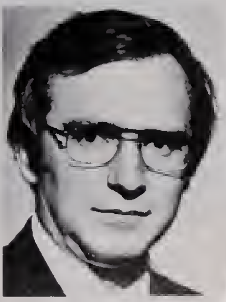
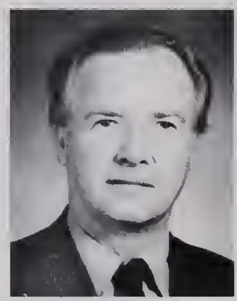
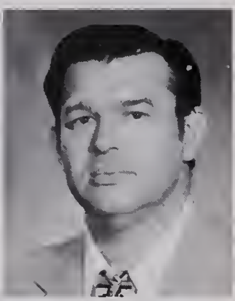
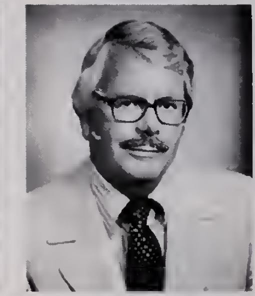

Robert R. MacDonald, Jr.
St. Louis


Larry Piepergerdes
Kansas City

The


Richard C. Hedges
First District


Robert V. Tompson
Second District


Thomas J. Cooper
Third District

Richard H. Fallon
Third District

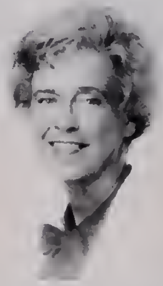
Carol F. Williams
Third District

Alan L. Braun
Fifth District

H. Peter Ekern
Fifth District
(Chairman)

A. J. Campbell
Sixth District

James P. Hopkins
Seventh District

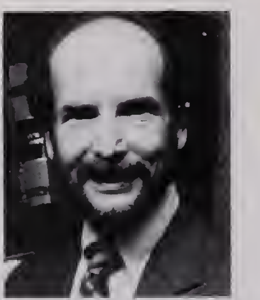

Dorothy Reister
Seventh District

Braham J. Geha
Seventh District

Vice-

Gary A. Dyer
First District

Carl R. Kruse
Second District


Bruce Stoliar
Third District

Paul H. Rother
Fourth District

Kenneth L. Rall
Fifth District

Jerry Meyer
Sixth District

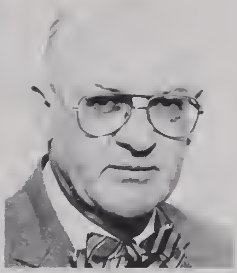
Council

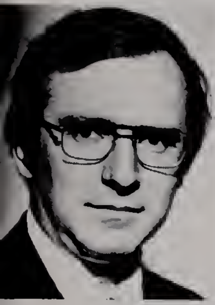
Theodore L. Paletta
Third District

J. Otto Lottes
Third District

Frederick D.
Peterson
Third District

David Wilkinson
Third District


William R. Richardson
Fourth District


Larry G.
Piepergerdes
Seventh District
(Vice-Chairman)

Francis M. Corry
Eighth District

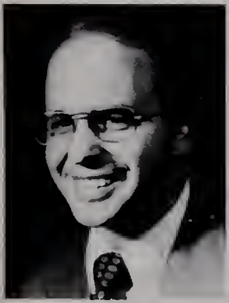
Marvin A. Singleton
Eighth District

Jack Wiles
Ninth District

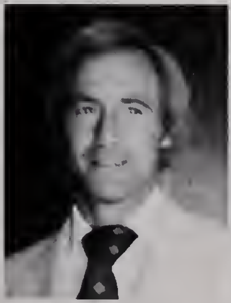
Melvin C. Kasten
Tenth District

Mary Colette
Schmidt
Student Councilor

Councilors


Robert T.
Gibbons, Jr.
Seventh District

David Hall
Eighth District


O. Martin Hasek
Ninth District

William C. Shell
Tenth District

Chris Felton
Student
Vice-Councilor

MSMA Committees and Commissions 1984-1985

STANDING COMMITTEES

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Executive Committee — James M. Stokes, St. Louis, *Chairman;* Walter A. German, Springfield; Berry Ivy, Springfield; Jay Meyer, St. Louis; H. Peter Ekern, Mexico; Larry G. Piepergerdes, Kansas City (1985).

Impaired Physician — William I. Stryker, St. Louis, *Chairman* (1985); David L. Ohlms, St. Louis (1986); G. R. Reinhardt, Kansas City (1986); Philip J. LeFevre, Springfield (1987); John J. O'Hearne, Kansas City (1987); Advisory Members — John P. Carmody, St. Louis; Joseph B. Kendis, St. Louis; Hugh C. Bartlett, Rolla; Warford B. Johnson, II, Springfield; Henry F. Domke, Jefferson City; Donald McIntosh, Springfield; Carl Pearman, Joplin (1985). *Student Ex Officio* — Ms. Anne Fitzsimmons, Columbia.

Legislative Affairs — John I. Matthews, Jefferson City, *Chairman;* James M. Stokes, St. Louis; Walter A. German, Springfield; H. Peter Ekern, Mexico; Larry G. Piepergerdes, Kansas City; Donald P. Miller, Jefferson City; Marvin A. Singleton, Joplin (1985). *Auxiliary Ex Officio* — Mrs. Richard P. Bowles, Liberty. *Student Ex Officio* — Mr. Mike Funderburk, Kansas City.

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Publication — Jordan W. Burkey, Springfield, *Chairman;* Bruce Stoliar, Florissant; Donald E. Menchetti, Springfield; Jerry W. Templer, Columbia; John K. Layle, Kansas City; Earl R. Schultz, St. Louis (1985).

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Medical Economics, Third Party Medicine and Governmental Relations — Nicholas J. Colosi, Richmond Heights, *Chairman* (1987); Gerard M. Callaghan, St. Louis (1985); Linda Fisher, St. Louis (1985); Joseph A. Kahn, Sikeston (1985); John K. Layle, Kansas City (1985); M. H. Choudhury, Mansfield (1985); Fred W. Hahn, Kansas City (1986); Pierre W. Keitges, Kansas City (1986); Arturo C. Montes, Florissant (1986); Frederick L. Thompson, Nevada (1986); C. R. Talbert, Cape Girardeau (1986); Stanley S. Peterson, Springfield (1987); Howard H. Roberts, Joplin (1987); B. A. Moranville, Columbia (1987); C. C. Reynolds, Kansas City (1987). *Student Ex Officio* — Mr. Dennis Eneanya, Columbia.

Medical-Legal Affairs — Leonard Davis, Mexico, *Chairman* (1985); Philip R. Fogle, Springfield (1985); William J. Medlicott, Kansas City (1985); David M. Reisler, Chesterfield (1985); Bernard Draper, Rolla (1985); Frank Ostapowicz, St. Louis (1986); Allen L. Spitler, Cape Girardeau (1986); Ben I. Albano, Crystal City (1986); John P. Roberts, Kirkwood (1986); Garth S. Russell, Columbia (1986); Johannes Schokker, Jefferson City (1987); Donald E. Kuenzi, Kansas City (1987); George L. Hawkins, Jr., St. Louis (1987); James E. Mallow, Shawnee Mission, Ks. (1987); Tehmton Mistry, St. Louis (1987). *Student Ex Officio* — Ms. Barbara Stegmann, Kansas City.

Public Affairs — Carl Myers, Platt City, *Chairman* (1985); Barry J. Bass, Salem (1985); Bruce Stoliar, Florissant (1985); George Bohigian, St. Louis (1985); Dorothy D. Reister, Shawnee Mission, Ks. (1985); Elias M. Throne, Kansas City (1986); Carl C. Pearman, Joplin (1986); Jimmy D. Heath, East Prairie (1986); Joseph J. Lauber, St. Louis (1986); Richard K. Danis, St. Louis (1986); Robert E. Gardner, Cape Girardeau (1987); Ms. Shari Dobkin, Kansas City (1987); Victoria Gunn, Jefferson City (1987); Mohammed Akhter, Columbia (1987); Phillip W. Pitney, Louisiana (1987).

Component Societies in Affiliation With the Missouri State Medical Association

County	District	President	Address	Secretary	Address
Andrew	1	J. L. Villahermosa	Savannah	Warren C. Baker	Savannah
Audrain	5	Mary Ellen Mullen	Mexico	Steve J. Taylor	Mexico
Barton	8	Alvin R. Cain	Lamar	Enrique Piedra	Lamar
Boone	5	Robert M. Thomas	Columbia	Vince Gurucharri	Columbia
Buchanan	1	Charles N. Mullican	St. Joseph	Edward H. Andres	St. Joseph
Butler-Wayne-Ripley-Carter	10	Ricardo Ramirez	Poplar Bluff	Chul Kim	Poplar Bluff
Callaway	5	George Groce	Fulton	Richard Osbourn	Fulton
Cape Girardeau County Area Medical Society, Inc.	10	E. D. Johnson	Cape Girardeau	Scott G. Pringle	Cape Girardeau
Chariton-Macon-Monroe-Randolph	2	Kenneth M. Kays	Moberly	J. Will Fleming	Moberly
Clay-Platte	1	Frank J. Albani	Liberty	Bruce A. Kauk	North Kansas City
Clinton	1	J. H. Sweiger	Plattsburg	L. A. Ozenberger	Plattsburg
Cole	5	Johannes Schokker	Jefferson City	Alan L. Braun	Jefferson City
Cooper	5	Daikichi Hata	Boonville	E. T. Humphreys	Boonville
Dallas-Hickory-Polk-Dade	8	Steve Pennington	Bolivar	William S. Donnell	Bolivar
Dunklin	10	Tuan Chou Cheng	Kennett	Joe A. Zimmerman	Kennett
Franklin-Gasconade-Warren	4	David Brunworth	Washington	Donald Baker	Union
Grand River Medical Society (Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	William L. Fair	Chillicothe	John R. Dixon	Brookfield
Greene	8	Leo M. Wyrsch	Springfield	John A. Mihalevich	Springfield
Henry	6	Richard King	Clinton	Kenneth F. Scott	Clinton
Howard	5	Maurice P. Leech	Fayette	Roger Hofmeister	Fayette
Jackson	7	William J. Medlicott	Kansas City	Dorothy Reister	Shawnee Mission, Kan.
Jasper	8	James Frogge	Joplin	Carl C. Pearman	Joplin
Jefferson	10	Narendar K. Datta	Crystal City	Martha Reed	DeSoto
Johnson	6	Keith Jones	Warrensburg	Robert L. Winders	Warrensburg
Laclede	9	Dennis Hite	Lebanon	Gary Courter	Lebanon
Lafayette-Ray	6	Charles T. Riley	Richmond	Bill LaHue	Lexington
Lake of the Ozarks Medical Society (Camden-Miller-Morgan)	5	Ted Garrison	Camdenton	Melvin R. Hayden	Camdenton
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries)	9	Larry Marti	Rolla	Carol Saunders	Rolla
Mineral Area Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Bollinger)	10	Victor Bentinganan	Fredericktown	Gary J. Parker	Farmington
Moniteau	5	Kenyon S. Latham	California	L. M. Gallagher	California
Montgomery	5	Samuel Byland	Wellsville	Samuel Byland	Wellsville
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Ronald Phillips	Kirksville	Milton T. English	Kirksville
Northeast Missouri Medical Society (Lewis-Clark-Scotland-Marion-Ralls-Shelby)	2	H. Jayanandaiah	Hannibal	Michael J. Bukstein	Hannibal
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	James K. Hunter	Fairfax	Walter E. Dean	Maryville
Ozarks Medical Society (Barry-Lawrence-Christian-Newton-McDonald)	8	Paul B. Anderson	Neosho	Russell White	Aurora
Pemiscot	10	Andrew E. Painter	Portageville	James G. Hazel, Jr.	Hayti
Perry-Ste. Genevieve	10	Sultan S. Hamid	Ste. Genevieve	Niranjana Raju	Ste. Genevieve
Pettis	6	Robert Edmonds	Sedalia	James R. Farkas	Sedalia
Pike	2	John Middleton	Louisiana	W. Joe Martin	Louisiana
St. Charles-Lincoln	4	Harvard Y. Muhm	St. Charles	Wayne B. Miles	St. Charles
St. Louis Metropolitan Medical Society	3	Paul L. Friedman	St. Louis	Bruce Stoliar	Florissant
Saline	6	Phillip Monroe	Marshall	Michael R. Butner	Marshall
SEMO County Medical Society (Stoddard-New Madrid-Mississippi-Scott)	10	James Heath	East Prairie	Robert Ballin	Sikeston
South Central (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	Robert D. Shaw, Jr.	Willow Springs	Thomas R. Stubbs	West Plains
Tri-Lakes Medical Society (Stone-Taney)	8	William Zeller, Jr.	Branson	John Byrne	Branson
Webster	8	T. M. MacDonnell	Marshfield	Joseph Byers	Fordland
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	Wayne L. Morton	Osceola	Frederick Thompson	Nevada
St. Louis University Student Medical Society		Mr. Hugh Hetherington	St. Louis	Mr. Chris Felton	St. Louis
University of Mo.-Columbia Student Medical Society		Ms. Mary Colette Schmidt	Columbia	Mr. Michael Boland	Columbia
University of Mo.-Kansas City Student Medical Society		Ms. Ann Hellerstein	Kansas City	Mr. Michael Funderburk	Kansas City
Washington University Student Medical Society		Mr. Joseph Francis, Jr.	St. Louis		

Guide to Component Medical Societies

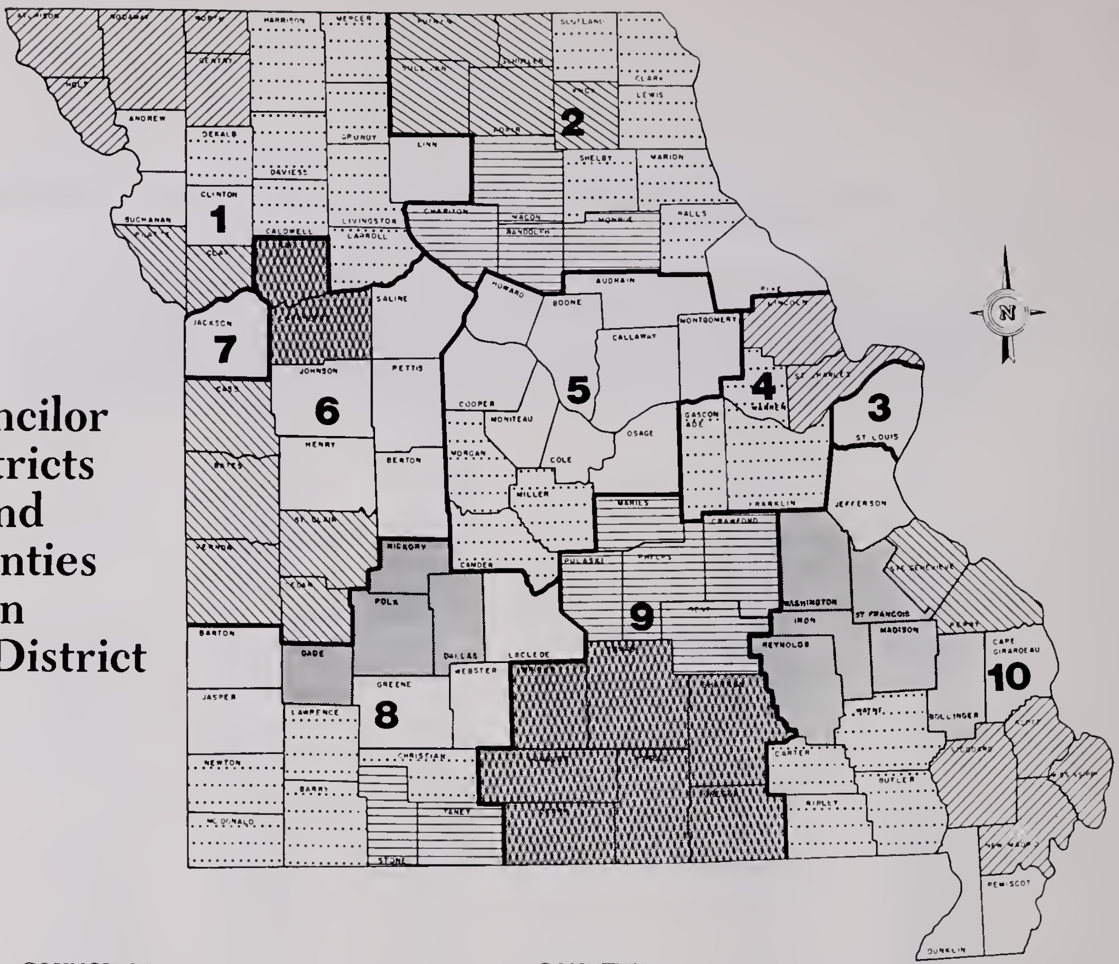
Following is a list of Missouri communities in which MSMA member-physicians are in active practice or reside. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community normally would belong.

Town	*County*	*Medical Society*
A		
Advance	Stoddard	SEMO
Affton	St. Louis	St. Louis Metropolitan
Albany	Gentry	Northwest Missouri
Altenburg	Perry	Perry-Ste. Genevieve
Appleton City	St. Clair	West Central
Arnold	Jefferson	Jefferson
Arrow Rock	Saline	Saline
Ashland	Boone	Boone
Augusta	St. Charles	St. Charles-Lincoln
Aurora	Lawrence	Ozarks
Ava	Douglas	South Central
B		
Ballwin	St. Louis	St. Louis Metropolitan
Bethany	Harrison	Grand River
Blue Springs	Jackson	Jackson
Bolivar	Polk	Dallas-Hickory-Polk-Dade
Bonne Terre	St. Francois	Mineral Area
Boonville	Cooper	Cooper
Branson	Taney	Tri-Lakes
Brentwood	St. Louis	St. Louis Metropolitan
Bridgeton	St. Louis	St. Louis Metropolitan
Brookfield	Linn	Grand River
Brunswick	Chariton	Chariton-Macon-Monroe-Randolph
Buffalo	Dallas	Dallas-Hickory-Polk-Dade
Butler	Bates	West Central
C		
Cabool	Texas	South Central
Cainsville	Harrison	Grand River
California	Moniteau	Moniteau
Camdenton	Camden	Lake of the Ozarks
Cape Girardeau	Cape Girardeau	Cape Girardeau
Cardwell	Dunklin	Dunklin
Carrollton	Carroll	Grand River
Carthage	Jasper	Jasper
Caruthersville	Pemiscot	Pemiscot
Cassville	Barry	Ozarks
Centralia	Boone	Boone
Charlack	St. Louis	St. Louis Metropolitan
Charleston	Mississippi	SEMO
Chesterfield	St. Louis	St. Louis Metropolitan
Chillicothe	Livingston	Grand River
Clayton	St. Louis	St. Louis Metropolitan
Climax Springs	Camden	Lake of the Ozarks
Clinton	Henry	Henry
Columbia	Boone	Boone
Concordia	Lafayette	Lafayette-Ray
Crestwood	St. Louis	St. Louis Metropolitan
Creve Coeur	St. Louis	St. Louis Metropolitan
Crystal City	Jefferson	Jefferson
Cuba	Crawford	Mid-Missouri
D		
Deepwater	Henry	Henry
Desloge	St. Francois	Mineral Area
DeSoto	Jefferson	Jefferson
Dexter	Stoddard	SEMO
Doniphan	Ripley	Butler-Wayne-Ripley-Carter

Town	*County*	*Medical Society*
E		
East Prairie	Mississippi	SEMO
Edina	Knox	North Central
Eldon	Miller	Lake of the Ozarks
El Dorado Springs	Cedar	West Central
Ellington	Reynolds	Mineral Area
Ellisville	St. Louis	St. Louis Metropolitan
Elsberry	Lincoln	St. Charles-Lincoln
Eureka	St. Louis	St. Louis Metropolitan
Excelsior Springs	Clay	Clay-Platte
F		
Fairdealing	Ripley	Butler-Wayne-Ripley-Carter
Fairfax	Atchison	Northwest Missouri
Farber	Audrain	Audrain
Farmington	St. Francois	Mineral Area
Fayette	Howard	Howard
Fenton	St. Louis	St. Louis Metropolitan
Ferguson	St. Louis	St. Louis Metropolitan
Festus	Jefferson	Jefferson
Flat River	St. Francois	Mineral Area
Florissant	St. Louis	St. Louis Metropolitan
Fordland	Webster	Webster
Forsyth	Taney	Tri-Lakes
Fort Leonard Wood	Pulaski	Mid-Missouri
Fredericktown	Madison	Mineral Area
Frontenac	St. Louis	St. Louis Metropolitan
Fulton	Callaway	Callaway
G		
Galena	Jackson	Jackson
Gallatin	Daviess	Grand River
Gladstone	Clay	Clay-Platte
Glasgow	Howard	Howard
Glendale	St. Louis	St. Louis Metropolitan
Grandview	Jackson	Jackson
Grant City	Worth	Northwest
Greenwood	Jackson	Jackson
H		
Hamilton	Caldwell	Grand River
Hannibal	Marion	Marrion-Ralls-Shelby
Harrisburg	Boone	Boone
Harrisonville	Cass	West Central
Hartsburg	Boone	Boone
Hayti	Pemiscot	Pemiscot
Hazelwood	St. Louis	St. Louis Metropolitan
Herculaneum	Jefferson	Jefferson
Hermann	Gasconade	Franklin-Gasconade-Warren
Higginsville	Lafayette	Lafayette-Ray
High Ridge	St. Louis	St. Louis Metropolitan
Hillsboro	Jefferson	Jefferson
Holden	Johnson	Johnson
Holts Summit	Callaway	Callaway
Hornersville	Dunklin	Dunklin
House Springs	St. Louis	St. Louis Metropolitan
Houston	Texas	South Central
Huntsville	Randolph	Chariton-Macon-Monroe-Randolph

Town	*County*	*Medical Society*
I		
Independence	Jackson	Jackson
Ironton	Iron	Mineral Area
J		
Jackson	Cape Girardeau	Cape Girardeau
Jefferson City	Cole	Cole
Joplin	Jasper	Jasper
K		
Kansas City	Jackson	Jackson
Kennett	Dunklin	Dunklin
Kimberling City	Stone	Tri-Lakes
Kirksville	Adair	North Central
Kirkwood	St. Louis	St. Louis Metropolitan
Knob Noster	Johnson	Johnson
L		
LaGrange	Lewis	Northeast
Lamar	Barton	Barton
Lebanon	Laclede	Laclede
Lee's Summit	Jackson	Jackson
Lemay	St. Louis	St. Louis Metropolitan
Lexington	Lafayette	Lafayette-Ray
Liberty	Clay	Clay-Platte
Linn	Osage	Cole
Louisiana	Pike	Pike
Lutesville	Bollinger	Mineral Area
M		
Macon	Macon	Chariton-Macon-Monroe-Randolph
Malden	Dunklin	Dunklin
Manchester	St. Louis	St. Louis Metropolitan
Mansfield	Wright	South Central
Maplewood	St. Louis	St. Louis Metropolitan
Marceline	Linn	Grand River
Marionville	Lawrence	Ozarks
Marshall	Saline	Saline
Marshfield	Webster	Webster
Marthasville	Warren	Franklin-Gasconade-Warren
Maryland Heights	St. Louis	St. Louis Metropolitan
Maryville	Nodaway	Northwest Missouri
Mexico	Audrain	Audrain
Moberly	Randolph	Chariton-Macon-Monroe-Randolph
Monett	Barry	Ozarks
Monroe City	Monroe	Chariton-Macon-Monroe-Randolph
Mound City	Holt	Northwest Missouri
Mount Vernon	Lawrence	Ozarks
Mountain Grove	Wright	South Central
N		
Neosho	Newton	Ozarks
Nevada	Vernon	West Central
New Haven	Franklin	Franklin-Gasconade-Warren
New London	Ralls	Northeast
Nixa	Christian	Ozarks
Normandy	St. Louis	St. Louis Metropolitan
North Kansas City	Clay	Clay-Platte
O		
Oak Grove	Jackson	Jackson
Odessa	Lafayette	Lafayette-Ray
O'Fallon	St. Charles	St. Charles-Lincoln
Osage Beach	Camden	Lake of the Ozarks
Osceola	St. Clair	West Central
Overland	St. Louis	St. Louis Metropolitan
Owensville	Gasconade	Franklin-Gasconade-Warren
P		
Pacific	Franklin	Franklin-Gasconade-Warren
Palmyra	Marion	Northeast
Paris	Monroe	Chariton-Macon-Monroe-Randolph
Parkville	Platte	Clay-Platte
Perryville	Perry	Perry-Ste. Genevieve
Pierce City	Lawrence	Ozarks
Platte City	Platte	Clay-Platte
Plattsburg	Clinton	Clinton
Pleasant Hill	Cass	West Central
Poplar Bluff	Butler	Butler-Wayne-Ripley-Carter
Portageville	New Madrid	SEMO
Potosi	Washington	Mineral Area
Puxico	Stoddard	SEMO
R		
Raymore	Cass	West Central
Raytown	Jackson	Jackson
Reeds Spring	Stone	Tri-Lakes
Republic	Greene	Greene
Richland	Pulaski	Mid-Missouri
Richmond	Ray	Lafayette-Ray
Richmond Heights	St. Louis	St. Louis Metropolitan
Rocheport	Boone	Boone
Rock Port	Atchison	Northwest
Rogersville	Webster	Webster
Rolla	Phelps	Mid-Missouri
Rosendale	Andrew	Andrew
S		
St. Ann	St. Louis	St. Louis Metropolitan
St. Charles	St. Charles	St. Charles-Lincoln
St. Clair	Franklin	Franklin-Gasconade-Warren
Ste. Genevieve	Ste. Genevieve	Perry-Ste. Genevieve
St. Joseph	Buchanan	Buchanan
St. Louis	St. Louis	St. Louis Metropolitan
St. Peters	St. Charles	St. Charles-Lincoln
Salem	Dent	Mid-Missouri
Sarcoxie	Jasper	Jasper
Savannah	Andrew	Andrew
Sedalia	Pettis	Pettis
Shelbina	Shelby	Northeast
Shell Knob	Barry	Ozarks
Shrewsbury	St. Louis	St. Louis Metropolitan
Sikeston	Scott	SEMO
Slater	Saline	Saline
Smithton	Pettis	Pettis
Smithville	Clay	Clay-Platte
Springfield	Greene	Greene
Stanberry	Gentry	Northwest
Steelville	Crawford	Mid-Missouri
Strafford	Greene	Greene
Sullivan	Franklin	Franklin-Gasconade-Warren
Sweet Springs	Saline	Saline
T		
Tarkio	Atchison	Northwest
Thayer	Oregon	South Central
Town and Country	St. Louis	St. Louis
Trenton	Grundy	Grand River
Troy	Lincoln	St. Charles-Lincoln
U		
Union	Franklin	Franklin-Gasconade-Warren
University City	St. Louis	St. Louis Metropolitan
V		
Valley Park	St. Louis	St. Louis Metropolitan
Van Buren	Carter	Butler-Wayne-Ripley-Carter
Versailles	Morgan	Lake of the Ozarks
W		
Warrensburg	Johnson	Johnson
Warrenton	Warren	Franklin-Gasconade-Warren
Washington	Franklin	Franklin-Gasconade-Warren
Waverly	Lafayette	Lafayette-Ray
Waynesville	Pulaski	Mid-Missouri
Webb City	Jasper	Jasper
Webster Groves	St. Louis	St. Louis Metropolitan
Wellsville	Montgomery	Montgomery
Wentzville	St. Charles	St. Charles-Lincoln
Weston	Platte	Clay-Platte
West Plains	Howell	South Central
Williamsville	Wayne	Butler-Wayne-Ripley
Willow Springs	Howell	South Central
Winchester	St. Louis	St. Louis Metropolitan
Windsor	Henry	Henry
Winston	Daviess	Grand River

Councilor Districts and Counties in Each District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ANDREW
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CARROLL
CALDWELL
LINN
SHELBY
MARION
MACON
RANDOLPH
CHARITON
MONROE
RALLS
LEWIS
CLARK
SCOTLAND
SALINE
HOWARD
BOONE
AUDRAIN
CALLAWAY
MONTGOMERY
LINCOLN
ST. CHARLES
WARREN
GASCONADE
ST. LOUIS
JACKSON
JOHNSON
PETTIS
COOPER
MONITEAU
HENRY
BENTON
MORGAN
COLE
OSAGE
MILLER
MARIES
FRANKLIN
CRAWFORD
JEFFERSON
CAMDEN
PULASKI
PHELPS
HICKORY
POLK
DALLAS
LACLEDE
WEBSTER
GREENE
DADE
BARTON
JASPER
LAWRENCE
NEWTON
CHRISTIAN
MCDONALD
BARRY
STONE
TANEY
WASHINGTON
IRON
ST. FRANCOIS
MADISON
REYNOLDS
CARTER
RIPLEY
BUTLER
BOLLINGER
CAPE GIRARDEAU
PERRY
PEMISCOT
DUNKLIN

DISTRICT	COUNCILOR	COUNTIES
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SECOND	Robert V. Tompson, M.D., Moberly	Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby and Sullivan
THIRD	Thomas J. Cooper, M.D., St. Louis Richard H. Fallon, M.D., St. Louis Carol F. Williams, M.D., St. Louis David Wilkinson, M.D., St. Louis J. Otto Lottes, M.D., St. Louis Theodore L. Paletta, M.D., St. Louis Frederick D. Peterson, M.D., St. Louis	St. Louis Metropolitan
FOURTH	William R. Richardson, M.D., Union	Franklin, Gasconade, Lincoln, St. Charles and Warren
FIFTH	H. Peter Ekern, M.D., Mexico Alan H. Braun, M.D., Jefferson City	Audrain, Boone, Callaway, Camden, Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan and Osage*
SIXTH	A. J. Campbell, M.D., Sedalia	Bates, Benton,* Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline and Vernon
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NINTH	Jack Wiles, M.D., West Plains	Crawford, Dent, Douglas, Howell, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon,* Texas and Wright
TENTH	Melvin C. Kasten, M.D., Poplar Bluff	Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Iron, Jefferson, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington and Wayne

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* Counties with no medical organization.

List of Designated Specialty Codes

The following specialties, including General Practice, are recognized by the American Medical Association.

A	Allergy
ABS	Abdominal Surgery
ADL	Adolescent Medicine
AI	Allergy and Immunology
AM	Aerospace Medicine
AN	Anesthesiology
BE	Broncho-Esophagology
BLB	Bloodbanking
CD	Cardiovascular Diseases
CDS	Cardiovascular Surgery
CHN	Child Neurology
CHP	Child Psychiatry
CLP	Clinical Pathology
CRS	Colon and Rectal Surgery
D	Dermatology
DIA	Diabetes
DMP	Dermatopathology
DR	Diagnostic Radiology
EM	Emergency Medicine
END	Endocrinology
FOP	Forensic Pathology
FP	Family Practice
GE	Gastroenterology
GER	Geriatrics
GP	General Practice
GPM	General Preventive Medicine
GS	General Surgery
GYN	Gynecology
HEM	Hematology
HNS	Head and Neck Surgery
HS	Hand Surgery
HYP	Hypnosis
ID	Infectious Diseases
IG	Immunology
IM	Internal Medicine
LAR	Laryngology
LM	Legal Medicine
MFS	Maxillofacial Surgery
N	Neurology
NA	Neuropathology
ND	Neoplastic Diseases
NEP	Nephrology
NM	Nuclear Medicine
NPM	Neonatal-Perinatal Medicine
NR	Nuclear Radiology
NS	Neurological Surgery
NTR	Nutrition
OBG	Obstetrics and Gynecology
OBS	Obstetrics
OM	Occupational Medicine
ON	Oncology
OPH	Ophthalmology
ORS	Orthopedic Surgery
OS	Other, i.e., physician designated a specialty other than appearing here.
OT	Otology
OTO	Otorhinolaryngology
P	Psychiatry
PA	Clinical Pharmacology
PD	Pediatrics
PDA	Pediatric Allergy
PDC	Pediatric Cardiology
PDE	Pediatric Endocrinology
PDR	Pediatric Radiology
PDS	Pediatric Surgery
PH	Public Health
PHO	Pediatric Hematology-Oncology
PM	Physical Medicine and Rehabilitation
PNP	Pediatric Nephrology
PS	Plastic Surgery
PTH	Pathology
PUD	Pulmonary Diseases
PYA	Psychoanalysis
PYM	Psychosomatic Medicine
R	Radiology
RHI	Rhinology
RHU	Rheumatology
RIP	Radioisotopic Radiology
TR	Therapeutic Radiology
TRS	Traumatic Surgery
TS	Thoracic Surgery
U	Urological Surgery

Note: No code will appear for those physicians who have not designated a specialty.

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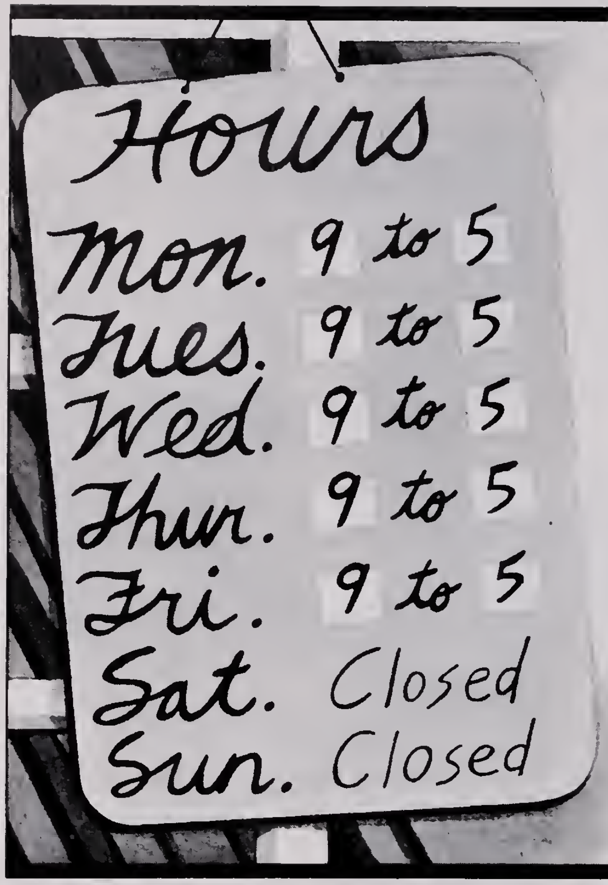

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(The alphabetical list of members includes the name and number of each member's component society.)

A

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— Notes —

OBESITY.

THE CONSEQUENCES CAN BE LIFE-SHORTENING.

As physicians, every one of us knows the consequences of obesity: cardiovascular disease... diabetes... hypertension... congestive heart failure... an increased risk of sudden death.

Most of us also recognize how difficult it is for the obese patient to lose weight, not to mention the frustrations and failures that attend long-term maintenance of normal weight—if, in fact, it is ever achieved.

The Institute for Health Maintenance (IHM) can help.

Working in conjunction with a patient's primary care physician, IHM offers a medically sound regimen for therapeutic weight loss: THE RISK FACTOR OBESITY PROGRAM (RFO).

Developed under clinical conditions at major medical teaching institutions, the RFO Program combines a medically supervised supplemented fast with long-term behavioral and nutritional training.

Under the supervision of the IHM medical staff, patients lose weight safely and consistently over a period of weeks and months. They receive their total daily nutritional requirements from a low-calorie egg albumen formulation and a multivitamin tablet... a supplement they stay with until goal weight is achieved.

The success of the RFO Program has been significant.

Over the past five years, thousands of patients have lost from 25 to over 100 pounds, with the average loss being 63 pounds. More important, 75%* of these patients have been able to sustain their new low weight levels with the help of our 18-month maintenance program.

Some have called the RFO Program "lifesaving." As physicians, we know the relationship between certain risk factors and longevity. Obesity is one of those factors—one we at IHM can help control.

To learn more about us and how this program can safely benefit some of your patients, please contact one of our medical directors at a clinic near you.

*Data on file, Institute for Health Maintenance.

The Risk Factor Obesity Program

Medically designed. Medically supervised. Medically sound.

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CHILLICOTHE, MO 64601
CONRAD, JOS A GP
511 ELM ST
CHILLICOTHE, MO 64601

CROSS, ALBERT D GP
618 E FIRST ST
TRENTON, MO 64683
DALEY, FRANK R GP
HAMILTON, MO 64644
DIXON, JOHN R GS
125 E LOCKLING ST
BROOKFIELD, MO 64628
DUFFY, OLIVER F US
902 CUSTER
TRENTON, MO 64683
ELLSWORTH, WILLARD GP
CAINSVILLE, MO 64632
FAIR, WM L FP
910 CLAY ST
CHILLICOTHE, MO 64601
GALE, JOS F GP
103 11TH ST
CHILLICOTHE, MO 64601
GALVEZ, SISENANDO P IM
105 S KANSAS
MARCELINE, MO 64658
GEARHART, MERRIAM GS
P.O. BOX 449
BETHANY, MO 64424
816-425-3152
HOWELL, BILLY D GP
125 E. LOCKLING
BROOKFIELD, MO 64628
MANDLER, GEO OTO
C/O HEDRICK OFFICE BLDG. #9
103 ELEVENTH ST.
CHILLICOTHE, MO 64601
646-284-0000
MOU, BIN P
NEVADA STATE SCHOOL & HOSP.
NEVADA, MO 64772
417-667-7833
NIXON, EDWARD E GP
GALLATIN, MO 64640
PARK, YOONG E PTH
2534 W. 29TH ST.
JOPLIN, MO 64801
PLATZ, JOHN H GP
16 N MONROE ST
CARROLLTON, MO 64633
RIVERA, MINERVA M IM
308 N. MAIN ST.
BROOKFIELD, MO 64628
258-332-0000
RIVERA, PEPITO C GS
308 NO. MAIN
BROOKFIELD, MO 64628
ROSE, JOHN F R
2105 MEADOW LANE CIRCLE
CHILLICOTHE, MO 64601
RYAN, DAVID FP
618 E. FIRST ST.
TRENTON, MO 64683
SMITH, ROBT W GP
BROOKFIELD PLAZA
BROOKFIELD, MO 64628
STALEY, DAVID L FP
CARROLL COUNTY MEM HOSP.
CARROLLTON, MO 64633
816-542-0011
STATON, R H GP
215 S MAIN ST
CARROLLTON, MO 64633
SZYMANSKI, STANLEY R R
BOX 366
MACON, MO 63552
TRINIDAD, HERMANITO R GS
103 - 11TH ST., SUITE 8
CHILLICOTHE, MO 64601
WILSON, FRED K GP
WINSTON, MO 64689
WONG, DAVID T O
8520 BROOKHOLLOW
WICHITA, KS 67206
WRIGHT, DIANA L IM
2612 HIGHLAND DR.
COLUMBIA, MO 65201
816-646-5551
YOON, JIN S OBG
103 11TH ST
CHILLICOTHE, MO 64601
YOOSSEF, REDWAN OPH
103 ELEVENTH ST. SOITE 11
HEDRICK OFFICE BUILDING
CHILLICOTHE, MO 64601

082—GREENE

ALCANCIA, ELPIDIO Y TR
3046 S. MAKLAN
SPRINGFIELD, MO 65804
417-887-1737
ALLEN, JERRY H GS
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511
ALLISON, JAMES B P
2200 E SUNSHINE STE 301
SPRINGFIELD, MO 65804
417-883-2525
ANCHETA, APOLINARIO A GS
306 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-4145
ANDERSON, DOUGLAS A PTH
1235 EAST CHEROKEE
SPRINGFIELD, MO 65802
417-885-2961
ANTHONY, DALLAS D R
609 CHERRY
SUITE 403
SPRINGFIELD, MO 65806
417-869-6332
ARMSTRONG, STEPHEN D RHU
FERRELL-DUNCAN CLINIC
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-882-9876
ASH, CHARLES J ORS
1443 N ROBBERSON ST
SUITE 300
SPRINGFIELD, MO 65802
417-866-2781
ASHLEY, MICHAEL E GS
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
ASHLEY, THOS E GS
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511
ATKINSON, LANCE D FP
RT. 1, BOX 445B
SPRINGFIELD, MO 65803
417-881-2180
ATKINSON, THOS E OPH
ANCHOR HILL RANCH #1
ROGERSVILLE, MO 65742
417-753-2930
AONER, CECIL R IM
708 MEDICAL TOWER
1443 NORTH ROBBERSON
SPRINGFIELD, MO 65802
417-031-0372
BACK, DONALD K IM
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
BAILEY, ALAN H PUD
2242 BARATARIA
SPRINGFIELD, MO 65804
417-881-4573
BAKER, DAVID M FP
440 S. MARKET
SPRINGFIELD, MO 65806
417-802-1045
BALDWIN, RICHARD M OBG
MEDICAL TOWER, SUITE 905
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-869-0739
BARNHILL, FLOYD R OTO
1900 SOOTH NATIONAL
SUITE 2300
SPRINGFIELD, MO 65804
417-887-5750
BARTLETT, JOHN E DR
208 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-865-5521
BARTLEY, RICHARD L FP
SOUTHWEST MISSOURI ST
TAYLOR HEALTH CENTER
SPRINGFIELD, MO 65802
417-836-5540
BEISNER, DONALD H OPH
2900 S FREMONT
SPRINGFIELD, MO 65804
417-887-3900
BELL, LAIRD A OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL 2960 NW
SPRINGFIELD, MO 65804
417-802-0180
BENNETT, ROBERT O ORS
1900 S. NATIONAL
SUITE 1950
SPRINGFIELD, MO 65804
417-802-1900
BENNOCH, SHANE L EM
COX MED CTR
1423 N JEFFERSON
SPRINGFIELD, MO 65802
417-836-3193
BENSON, RONALD G OBG
404 E BATTLEFIELD
SPRINGFIELD, MO 65807
417-807-0966
BENTLEY, JOHN D IM
1900 S NATIONAL
SOITE 2200
SPRINGFIELD, MO 65804
417-087-4000
BERNER, CAROL T FP
1900 S. NATIONAL SOITE 2800
SPRINGFIELD, MO 65804
417-881-8818
BERRY, PAOL T FP
1740 S GLENSTONE OFF O
SPRINGFIELD, MO 65804
417-883-3533
BLADES, ROSS D U
1211 S GLENSTONE AVE
SPRINGFIELD, MO 65804
417-831-1511
BLAINE, JAMES R EM
1423 N. JEFFERSON
SPRINGFIELD, MO 65802
417-836-3000
BONEBRAKE, ALBERT J OBG
1900 SOUTH NATIONAL
SUITE 2960
SPRINGFIELD, MO 65804
417-882-1279
BONEBRAKE, MAC D OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELD, MO 65804
417-887-5500
BONNER, JAMES S OS
1031 E. BATTLEFIELD #123A
SPRINGFIELD, MO 65807
417-865-5581
BOONE, MARTIN H JR AN
1900 SOUTH NATIONAL #1800
SPRINGFIELD, MO 65804
417-887-6323
BORJA, EGBERT R IM
2912 S. BRENTWOOD
SPRINGFIELD, MO 65804
417-887-1576
BRENT, LANNY R JR. DR
208 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-865-5521
BRIAN, WM J AN
1900 S. NATIONAL #1800
SPRINGFIELD, MO 65804
417-887-6323
BRIGHT, JAMES E P
2003 E. SONSHINE
SUITE J
SPRINGFIELD, MO 65804
417-882-3000
BROADDUS, LOREN E IM
1550 E SONSHINE
SPRINGFIELD, MO 65804
417-881-1100
BROCKMAN, M. DOOGLAS IM
1675 E. SEMINOLE SUITE M
SPRINGFIELD, MO 65807
417-887-6060
BROOKS, JOHN E N
1443 N. ROBBERSON
#1007 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-065-2882
BROWN, DAVID W ORS
1900 S. NATIONAL
NORTH WING - SOITE 1980
SPRINGFIELD, MO 65804
417-882-6040
BROWN, JAMES T CD
2222 E BERKELEY
SPRINGFIELD, MO 65804
417-881-1100
BORKEY, JORDAN W OTO
410 PROFFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-862-6701
BORLINGAME, ROBERT K P
1031 E. BATTLEFIELD #122
SPRINGFIELD, MO 65807
417-887-2389
BOSIEK, ORBAN J PD
1635 E. WALNOT
SPRINGFIELD, MO 65802
417-862-6561
BUSSMANN, DONALD W JR O
3741 E. SOGAR HILL
SPRINGFIELD, MO 65804
BOSSMANN, YVONNE L PD
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
CALDWELL, JOSEPH L A
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
CALLAWAY, GUY D JR IM
901 E PORTLAND
SPRINGFIELD, MO 65804
417-831-9820
CANLAS, MARIO P NS
205 MEDICAL TOWERS
SPRINGFIELD, MO 65802
417-862-0504
CARLTON, LYNN N DR
2825 S. CATALINA CIRCLE
SPRINGFIELD, MO 65804
417-883-9805
CAROLLA, ROBERT L ONC
1900 SOUTH NATIONAL
SOITF 3600 NW
SPRINGFIELD, MO 65804
417-882-4880

CARR, PHILLIP W CD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
CEASER, JAMES H CD
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
CEASER, NANCY H PD
COX MED CTR.
1423 JEFFERSON
SPRINGFIELD, MO 65802
417-882-9752
CHRISTENSEN, HAROLD L IM
1550 SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
CHRISTIANSEN, STEPHEN D GS
NAT. AVE. MED. BLDG. #2800
1900 S. NATIONAL
SPRINGFIELD, MO 65804
417-882-9195
CHRISTY, RAYMOND A PD
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511
CLARKE, MICHAEL J GS
3530 E. CATALPA
SPRINGFIELD, MO 65804
417-883-3363
CLARKE, MICHAEL S ORS
1900 S. NATIONAL
SUITE 1950
SPRINGFIELD, MO 65804
417-882-1900
CLARY. WM F P
1722-J SOUTH GLENSTUN
SPRINGFIELD, MO 65804
417-881-3124
CLAYTON, EDGAR L PDA
609 CHERRY ST
103 PROFESSIONAL BLD
SPRINGFIELD, MO 65806
417-862-4491
COCHRAN, THOS E IM
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511
COLLINS, DOUGLASS D PD
1900 S NATIONAL
SUITE 2900
SPRINGFIELD, MO 65004
417-882-1600
CONRAD, RAYMOND C OBG
1338 S. DELAWARE
SPRINGFIELD, MO 65804
417-881-6156
COOK, JAMES R AN
1900 SOUTH NATIONAL #1000
SPRINGFIELD, MO 65804
417-883-3963
COOPER, C. WESLEY CD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
CORDONNIER, JAMES K GS
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
CORRY, FRANCIS M GS
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
COSCIA, ROBERT L GS
1443 N. ROBBERSON
SUITE 1001
SPRINGFIELD, MO 65802
417-865-2879

COULTER, JAMES W PUD
BOX 192C RT 3
ROGERSVILLE, MO 65742
417-887-2997

CRAWFORD, ORAL B AN
1900 SOUTH NATIONAL #1800
SPRINGFIELD, MO 65804
417-887-6323

CRIGHTON, JOHN C GS
1443 N. ROBBERSON
SUITE 1001
SPRINGFIELD, MO 65802
417-865-2879

CROSTHWAIT, EDWARD L GP
1305 BATTLEFIELD
SPRINGFIELD, MO 65804
417-883-9100

CUNNINGHAM, D. DEAN GP
1715 BOONVILLE AVE
SPRINGFIELD, MO 65803
417-869-5517

CUNNINGHAM, RICHARD D IM
609 CHERRY ST.
309 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-862-4429

DANIELSSON, ERNST P PS
3324 E REDBUD LANE
SPRINGFIELD, MO 65804
417-881-5095

DAVIS, MICHAEL H IM
FERRELL DUNCAN CLINIC
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
DAVIS, THOMAS P III IM
708 MEDICAL TOWERS
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-831-0372
DECKARD, SHELBY W IM
2256 E MEADOW
SPRINGFIELD, MO 65804
417-887-5171
DEXTER, J. KENT IM
609 CHERRY
419 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-0747
DILLARD, ERIN M ORS
1900 S. NATIONAL
NORTH WING SUITE 1980
SPRINGFIELD, MO 65804
417-882-6040
DILLS, JOS N GS
BOX 82
CEDAR KEYS, FL 32625
DIMALANTA, ANTONIO S CHP
430 SOUTH AVE.
SPRINGFIELD, MO 65806
417-866-1969
DOMANN, DARREL D PS
901 MEDICAL TOWER
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-862-9556
DOWELL, J. LARRY FP
BOX 39
STRAFFORD, MO 65757
417-736-2998
DUENSING, GEORGE F PTH
1964 E. VINCENT
SPRINGFIELD, MO 65804
417-887-5593
DUFF, JAMES E IM
419 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-0747
DUNCAN, DOUGLAS M ORS
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
DUNCAN, ROBT D GS
1234 E. LOREN
SPRINGFIELD, MO 65804
417-869-1665
EARLS, JIM H P
407 PROFESSIONAL BLDG.
609 CHERRY ST.
SPRINGFIELD, MO 65806
417-866-6503
EGBERT, ROBERT N NM
C/O ST. JOHN'S HOSPITAL
1235 E. CHEROKEE
SPRINGFIELD, MO 65804
417-885-3021
ELKINS, RONALD F CRS
2830 E. GLENWOOD ST.
SPRINGFIELD, MO 65804
417-881-6712

ELLIS, FRANCIS J OBG
1900 S. NATIONAL SUITE 2960
SPRINGFIELD, MO 65804
417-887-5500

ELLIS, HARRY L U
1965 S. FREMONT SUITE 3100
SPRINGFIELD, MO 65804
417-882-0300

ENKVETCHAKUL, BOONMEE AN
3573 E WHITEHALL
SPRINGFIELD, MO 65804
417-887-3560

EVANS, EZRA L PD
2457 E BARATARIA ST
SPRINGFIELD, MO 65804
417-883-7495

FARBER, BARRY S U
1900 S. NATIONAL #2700
SPRINGFIELD, MO 65804
417-887-2090

FARTHING, GENE W GS
1235 E. WALNUT
SPRINGFIELD, MO 65802
417-862-6312

FERGUSON, JOHN F NS
1900 S. NATIONAL SUITE 2980
SPRINGFIELD, MO 65004
417-887-6880

FERGUSON, JOHN L IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

FERGUSON, JOHN P OBG
NATIONAL AVE MED BLDG
1900 S NATIONAL 2960
SPRINGFIELD, MO 65804
417-887-5500

FERRELL, THOS E GS
1524 MEADOWMERE
SPRINGFIELD, MO 65804
417-862-3027
FINK, ROGER L PTH
204 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-836-3917
FITE, JAMES E EM
1104 E. MEADOWLARK
SPRINGFIELD, MO 65807
417-836-3000
FOGERSON, VIRGINIA L GP
227 E CHESTNUT EXPRESSWAY
SPRINGFIELD, MO 65802
417-864-1674
FOGLE, PHILIP R OBG
1900 S NATIONAL
SUITE 1500
SPRINGFIELD, MO 65804
417-887-1646
FOOTE, DANIEL D AN
1900 S. NATIONAL #1800
SPRINGFIELD, MO 65804
417-869-4377
FROEHLICH, THOMAS W IM
1900 SOUTH NATIONAL
SUITE #2800
SPRINGFIELD, MO 65804
417-882-4880
GASKA, WALTER J PS
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
GENTRY, MERRITT L GP
1012 EAST CAMBRIDGE
SPRINGFIELD, MO 65807
417-887-3946
GENTRY, MICHAEL A D
1722 "K" S. GLENSTONE
SPRINGFIELD, MO 65804
417-883-8162
GERDES, JOHN A PTH
1235 E. CHEROKEE
SPRINGFIELD, MO 65802
417-885-2879
GERDES, KARL E R
403 PROFESSIONAL BLDG.
609 CHERRY
SPRINGFIELD, MO 65806
417-866-5630
GERMAN, WALTER A OBG
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
GIBSON, JAMES D GS
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
GIDDINGS, FRANK C DR
208 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-865-5521
GILL, PAUL J IM
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
GLOVER, JACK F IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
GOODWIN, J. WENDALL IM
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
GOSE, DON F GS
1550 E SUNSHINE ST
SPRINGFIELD, MO 65004
417-881-1100
GOTTI, EDWARD W NM
DEPT OF NUCLEAR MED.
1235 CHEROKEE
SPRINGFIELD, MO 65802
417-885-3021
GRACE, STEVE OBG
NATIONAL AVE. MED. BLDG.
1900 S NATIONAL - #2960
SPRINGFIELD, MO 65804
417-887-5500
GRANT, RUTH HEM
1900 SO NATIONAL
SUITE 2800
SPRINGFIELD, MO 65804
417-882-4880
GRIESEMER, BERNARD A PD
3014 "J" E. SUNSHINE
SPRINGFIELD, MO 65804
417-887-0727
GURIAN, LAWRENCE E GE
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
GUTZMER, ERNEST W FP
2714 E GLENWOOD
SPRINGFIELD, MO 65804
417-887-4469
GWIN, EDWARD IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100

H'DOUBLER, CHAS GS
406 MEDICAL TOWER
SPRINGFIELD, MO 65802
417-831-4833
H'DOUBLER, FRANCIS T GP
1900 S. NATIONAL
SUITE 2950
SPRINGFIELD, MO 65804
417-882-3066
H'DOUBLER, PETER B GS
302 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-866-7249
HACKER, DOUGLAS A N
403 PROFESSIONAL BLDG.
SPRINGFIELD, MO 65806
417-869-6332
HADDOW, ALASTAIR D ID
1900 S. NATIONAL SUITE 2200
SPRINGFIELD, MO 65804
417-887-4000
HAEN, CHAS J GP
1630 N JEFFERSON
SPRINGFIELD, MO 65803
417-869-7337
HALL, DAVID W FP
ROUTE 2
ROGERSVILLE, MO 65742
417-883-3758
HALL, DURWARD G GS
2442 S FREMONT
SPRINGFIELD, MO 65804
417-881-2515
HAMBURG, FREDERIC L PD
1900 S. NATIONAL
SUITE 2900
SPRINGFIELD, MO 65804
417-882-1600
HANAN, ERNEST B PTH
724 EAST KINGSBURY
SPRINGFIELD, MO 65802
417-883-0922
HANSS, ARMAND W IM
642 S MISSION
SPRINGFIELD, MO 65804
417-869-3774
HARGIS, JAMES L PUD
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-9820
HARMON, BEN C ORS
1211 S GLENSTONE ST
SPRINGFIELD, MO 65804
417-831-1511
HARRIS, HUGH G ORS
1900 S. NATIONAL SUITE 1950
SPRINGFIELD, MO 65804
417-882-1900
HARVEY, HAROLD D PS
2030 S NATIONAL
SPRINGFIELD, MO 65804
417-881-9214
HASLER, GALEN R ONC
900 E. LINWOOD
SPRINGFIELD, MO 65807
417-831-3633
HAWKINS, CALVIN D R
3523 S. CARA LANE
SPRINGFIELD, MO 65804
417-887-4658
HAYES, STANLEY P IM
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
HEINZ, GEORGE PUD
1900 S NATIONAL
SPRINGFIELD, MO 65804
417-887-4000
HELLAM, DUANE C IM
1433 S. DELAWARE
SPRINGFIELD, MO 65804
417-869-0747
HENRY, ROY A PD
1211 S. GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
HERFKENS, KENNETH D IM
1900 S NATIONAL
SPRINGFIELD, MO 65804
417-887-4000
HILLS, JOE E CD
1550 E SUNSHINE ST
SPRINGFIELD, MO 65804
417-881-1100
HINDS, PAUL A OBG
TAYLOR HEALTH CLINIC
SPRINGFIELD, MO 65802
417-836-5540
HOEMAN, MICHAEL D IM
1443 N. ROBBERSON SUITE 805
SPRINGFIELD, MO 65002
417-866-7233
HOLAND, ROY W ORS
1550 E. SUNSHINE
SPRINGFIELD, MO 65804
314-881-1100
HOLLAND, ROBT D PD
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511
HOLLIS, RICHARD W AN
1900 SOUTH NATIONAL #1800
SPRINGFIELD, MO 65804
417-887-6323
HOLMES, DANL E IM
MEDICAL TOWER, SUITE 805
1443 N. ROBBERSON
SPRINGFIELD, MO 65802
417-866-7233
HOLMES, DAVID R OBG
3259 E. SUNSHINE
SPRINGFIELD, MO 65804
417-881-1337
HORTON, BILL G OPH
1900 S. NATIONAL
SPRINGFIELD, MO 65804
417-887-5400
HORTON, JAMES D ORS
1235 E DELMAR
SPRINGFIELD, MO 65804
417-869-3041
HUBBARD, SALLY L FP
901 NATIONAL
SMSU STUDENT CLINIC
SPRINGFIELD, MO 65802
417-836-5540
HUEWE, DOUGLAS A D
1900 S. NATIONAL SUITE 3800
NORTH WING
SPRINGFIELD, MO 65804
417-862-2277
HUFFT, ROBERT E JR ORS
1900 S. NATIONAL
#1950
SPRINGFIELD, MO 65804
417-882-1900
HULSTRA, JOHANNES F P
1211 S GLENSTONE
SPRINGFIELD, MO 65802
417-831-1511
HUSTED, FREDERICK C IM
1550 E SUNSHINE
SPRINGFIELD, MO 65804
417-881-1100
IPFENSEN, JOHN H OTO
1900 SOUTH NATIONAL
STE 2300
SPRINGFIELD, MO 65804
417-887-5750
IVY, BERRY OPH
5000 SHADY OAKS PLACE
SPRINGFIELD, MO 65804
417-883-3611
JAHANIAN, IRAJ GP
404 PROFESSIONAL BLDG
SPRINGFIELD, MO 65806
417-869-0553
JAMESON, JAMES E ORS
1900 S. NATIONAL
NORTH WING - SUITE 1980
SPRINGFIELD, MO 65804
417-882-6040
JANECZKO, GREGORY F AN
1900 SOUTH NATIONAL #1800
SPRINGFIELD, MO 65804
417-887-6323
JOBE, CHAS L IM
1211 S GLENSTONE-S G C
SPRINGFIELD, MO 65804
417-831-9820
JOHNSON, FRITZ M TS
1900 S NATIONAL
STE. 2600
SPRINGFIELD, MO 65804
417-887-5220

JOHNSON, JEFFREY R U
1965 S. FREEMONT, SUITE 3100
SPRINGFIELD, MO 65804
417-882-0300

JOHNSON, JOS C JR OBG
1211 S GLENSTONE
SPRINGFIELD, MO 65804
417-831-1511

JOHNSON, MARY N AN
609 CHERRY PROFESSIONAL BLDG
SPRINGFIELD, MO 65805
417-869-4377

JOHNSON, WARFORD B II IM
1443 N ROBBERSON
STE 708
SPRINGFIELD, MO 65802
417-831-0372

JOHNSON, WARFORD B SR. IM
220 PROFESSIONAL BLDG
SPRINGFIELD, MO 65804
417-866-0636
JOHNSON, WM F U
1965 S. FREMONT, SUITE 3100
SPRINGFIELD, MO 65804
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816-248-3904
HOERL, MARK S FP
FAYETTE MED. CLINIC
FAYETTE, MO 65248
816-248-2217
HOFMEISTER, ROGER W FP
ELM & CHURCH STS.
FAYETTE, MO 65248
816-248-2217
LEECH, MAURICE P GP
920 W. DAVIS
FAYETTE, MO 65240
816-248-2261
MARSHALL, WILLIAM G FP
GLASGOW MED CTR
GLASGOW, MU 65254
816-338-2233
SHAW, WM J GP
207 N. MAIN
FAYETTE, MO 65248
816-248-2282

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1515 W. TRUMAN RD #501
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016-252-1900
ABDOU, NANCY L HEM
SUITE T101
6420 PROSPECT
KANSAS CITY, MO 64132
816-363-4100
ABELLA, BIENVENIDO Z GS
9048 E. 51ST TERRACE
KANSAS CITY, MO 64133
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KANSAS CITY, MO 64114
816-942-4243
ABRAMS, BERNARD M N
STE 400 HIGHLANDS PRUF TOWER
6724 TROOST
KANSAS CITY, MO 64131
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ADELMAN. ARTHUR GS
6724 TROUST SUITE 910
KANSAS CITY, MO 64131
816-333-2000
ADLER, FEDERICO ORS
6724 TROOST AVE
#300
KANSAS CITY, MU 64131
816-363-6500
AGEE, LOREN G FP
310 CARONDOLET MED. BLDG.
1010 CARONDOLET DR.
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AHMAD, ABU Q OTU
0036 PAWNEE #101
PRAIRIE VILLAGE, KS 66208
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AHMED, IFTEKHAR N
2900 BALTIMORE SUITE 600
KANSAS CITY, MO 64108
816-756-2651
AHUJA, SURAJ P CD
428 ROCKHILL MED. BLDG.
6700 TROOST
KANSAS CITY, MO 64131
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1515 W. TRUMAN RD.
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6724 TRUOST
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KANSAS CITY, MO 64131
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ALBERG, MARVIN R OM
3525 N W 60TH TERRACE
KANSAS CITY, MO 64151
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SHAWNEE MISSION, KS 66206
913 341 7869
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4400 BROADWAY
KANSAS CITY, MO 64111
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210 FOXHILL MED. BLDG.
4601 W. 109TH ST.
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4320 WORNALL RD.
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KANSAS CITY, MO 64108
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KANSAS CITY, MO 64113
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6700 TROOST
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VERGARA, GERARDO G PTH
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SHAWNEE MISSION, KS 66202
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LEE'S SUMMIT, MU 64063
525-240-0000
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KANSAS CITY, MB 64132
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WELTER, EUGENE S OM
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WENNER, HERBERT A PD
CHILDRENS MERCY HOSP
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DEMENT, OMAN E 1221 MC INTOSH CIRCLE DR. JOPLIN, MO 64801 417-624-1711	OBG
DIXON, HERBERT K 3201 MCINTOSH CIRCLE DR. JOPLIN, MO 64801 417-624-8390	OPH
DOODY, DIAN L 3107 MC CLELLAND JOPLIN, MO 64801 417-781-3121	PD
DOODY, PATRICK T 2817 MC CLELLAND BLVD. SUITE 110 JOPLIN, MO 64801 417-782-5000	NEP
ELLINGTON, BEVERLY T 3315 MC INTOSH CIRCLE JOPLIN, MO 64801 417-624-1520	PD
ESCH, JOHN G JOPLIN ORTHOPAEDIC SURG, INC P. O. BOX 2507 JOPLIN, MO 64003 417-782-1432	ORS
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FRITSCH, ANDREW J 2525 JACKSON ST JOPLIN, MO 64801 417-623-1333	IM
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GARDNER, JOE A 2700 MCCLELLAND BLVD. SUITE 109 BLDG A JOPLIN, MO 64801 417-782-2660	OBG
GASTON, SAMUEL L 3115 MC CLELLAND JOPLIN, MO 64801 417-624 1920	R
GOFF, JOHN E 2601 CUNNINGHAM LOWER LEVEL JOPLIN, MO 64801 417-782-3600	FP
GRAHAM, JOSEPH M 2817 MC CLELLAND SUITE 211 JOPLIN, MO 64801 417-782-2190	CDS
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GRIM, EDWARD M 3105 MC CLELLAND BLVD JOPLIN, MO 64801 417-623-3703	U
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HALLABA, M. A. S. 2401 JACKSON JOPLIN, MO 64801 417-782-1110	GS
*HAMILTON, THOMAS K 2700 MC CLELLAND BLVD. BLDG D SUITE 213 JOPLIN, MO 64801 417-781-9998	GP
*HAMILTON, WILLIAM J 2700 MC CLELLAND BLVD BLDG. B SUITE 203 JOPLIN, MO 64801 417-782-1403	N
HARI, MAGARAL S SUITE 5, MC CLELLAND BLVD. JOPLIN, MO 64801 417-781-6661	AN
HATLELID, R. ROBERT 2817 MCCLELLAND BLVD. SUITE 110 JOPLIN, MO 64801 417-782-0900	NEP
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POTTENGER, L. KENNETH P. O. BOX 2337 1722 W. 27TH JOPLIN, MO 64801 417-624-5882	DR
POWELL, ROBERT G RR 1 BOX 408 RIVERTON, KS 66770 316-848-3828	IM
PRYOR, IRA JOE 2902B MC CLELLAND BLVD. SUITE 10 JOPLIN, MO 64801 417-781-6661	AN
*PYRON, JIMMY W 1102 W. 32ND ST. JOPLIN, MO 64801 417-623-2801	EM
RATHNAKUMAR, KALAICHELVI 2902-B MC CLELLAND BLVD. SUITE 10 JOPLIN, MO 64801 417-623-4374	AN
REDDY, ANCHALA N 2509 JACKSON JOPLIN, MO 64601 417-782-3212	PUD
REDDY, NALINI A 2509 JACKSON JOPLIN, MO 64801 417-782-2338	OPH
REDDY, VODUR C 2700 MC CLELLAND BLVD. BLDG D SUITE 214 JOPLIN, MO 64801 417-782-0045	U
RINGEN, ORAN J JR 3302 MCINTOSH CIRCLE DR JOPLIN, MO 64801 417-624-1520	FP
ROBERTS, HOWARD H 3101 MC CLELLAND JOPLIN, MO 64801 417-624-1714	GYN
ROYCE, JAMES J 16TH AND MINER STS. SARCOXIE, MO 64862 417-548-3334	GP
SABAPATHY, SHAN 2817 MCCLELLAND SUITE 225 JOPLIN, MO 64801 417-781-4260	CD
SANEMAN, PAUL P 2700 MC CLELLAND BLVD BLDG A, SUITE 108 JOPLIN, MO 64801 417-781-4530	OBG
SCHMIDT, HERBERT J 2700 MC CLELLAND BLDG B, SUITE 204 JOPLIN, MO 64801 417-782-1800	GYN

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BLDG B SUITE 215
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LYLE, ROBT R GP
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BATAN-CO, RUBY L AN
14233 REELFOOT LANE DR
CHESTERFIELD, MO 63017
314-469-1039
BAUER, DANIEL J IM
621 S. NEW BALLAS RD.
CREVE COEUR, MO 63141
314-432-4415

BAUER, EUGENE A D
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-362-2643
BAUER, JOHN D PTH
#10 HOSPITAL DR.
ST. PETERS, MO 63376
314-441-6500
BAUER, JOS A PD
5 RIDGEWOOD RD
ST LOUIS, MO 63124
BAUER, ROBERT A FP
2386 N HIGHWAY 67
FLORISSANT, MO 63033
314-921-7302
BAULA, ARMINDO G R
609 JEFFERSONIAN DR
ST LOUIS, MO 63125
BAUSCHARD, FREDERICK D D
6500 CHIPPEWA
ST LOUIS, MO 63109
314-832-6003
BAUWENS, DANIEL B IM
5505 DELMAR BLVD.
ST. LOUIS, MO 63112
314-361-8833
BEARE, J. BYRON U
12 COACH-N-FLOUR
ST. LOUIS, MO 63131
BEARE, LUCIA V AN
12 COACH N FOUR
ST. LOUIS, MO 63131
314-966-4648
BEASLEY, LOUIS K GE
915 E. OCEAN BLVD.
STUART, FL 33494
305-283-8255
BEATO, DAVID L IM
6651 CHIPPEWA
SUITE 223
ST LOUIS, MO 63109
314-781-2929
BEATY, WM R OBG
35 MUILFIELD LANE
ST LOUIS, MO 63141
314-227-8500
BECKER, BERNARD OPH
517 S EUCLID
ST LOUIS, MO 63110
314-362-3740
BECKER, ROBT L OBG
777 SO. NEW BALLAS RD.
ST LOUIS, MO 63141
314-567-7303
BECKER, STANLEY C OPH
4401 HAMPTON
ST LOUIS, MO 63109
314-352-5500
BECKETTE, EDMUND OBG
1245 GRAHAM RD RM 302
FLORISSANT, MO 63031
314-837-3151
BEHBAHANI, PARVIZ M AN
1402 S. GRAND BLVD.
ST LOUIS, MO 63104
314-664-9000
BEHRENS, DONALD F GS
3654 S GRAND AVE
ST LOUIS, MO 63118
314-776-0568
BEHRENS, GERALD L GS
325 N. KIRKWOOD RD
ST. LOUIS, MO 63122
314-966-8500
BEIDLE, RAYMOND J FD
12255 DEPAUL DR. #340
BRIDGETON, MO 63044
314-291-4727
BELEW, JOE E OBG
224 S WOODS MILL ROAD
SUITE 750
CHESTERFIELD, MO 63017
314-569-0055
BELL, MARTIN J GS
621 SOUTH NEW BALLAS RD.
SUITE 6018
ST LOUIS, MO 63141
314-569-6425
BENAGE, CLARENCE M GS
11115 NEW HALLS FERRY RD.
SUITE 303
FLORISSANT, MO 63033
314-838-5600
BENEDICT, WILLIAM W IM
522 N NEW BALLAS RD
CREVE COEUR, MO 63141
314-567-3113
BENNETT, JOHN OBG
950 FRANCIS PLACE
SUITE 219
ST. LOUIS, MO 63105
314-727-3087
BENNETT, KENNETH J GS
456 N NEW BALLAS RD
ST LOUIS, MO 63141
314-569-0130
BENOIST, WALTER F FD
119 CHURCH ST
ST LOUIS, MO 63135
314-521-1600
BENSON, JOHN F OBG
1227 LACLEDE STATION RD.
ST LOUIS, MO 63117
314-389-3750
BERAHA, NATHAN B PD
500 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-454-6000
BERARD, LOUIS N U
9712 LOOKOUT DR.
ST LOUIS, MO 63137
BERCKES, STACY J AN
7950 WESTOVER PLACE
UNIVERSITY CITY, MO 63130
314-993-5532
BERG, CAROL S EM
36 PROVINCIAL COVET
ST. LOUIS, MO 63122
314-878-6729
BERG, EDWARD F OPH
5 CEDARCREST
ST LOUIS, MO 63132
314-569-1558
BERG, LEONARD N
BARNES HOSPITAL PLAZA
SUITE 16304
ST LOUIS, MO 63110
314-367-3122
BERG, RALPH FP
3203 S GRAND BLVD
ST LOUIS, MO 63118
314-773-7857
BERGER, EDWARD J IM
300 S GRAND BLVD
ST LOUIS, MO 63103
314-658-5794
BERGMANN, DWAYNE L U
6500 CHIPPEWA ST
ST LOUIS, MO 63109
314-351-5300
BERGMANN, JOHN F P
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1958
BERGMANN, MARTIN TS
2821 N. BALLAS RD.
ST LOUIS, MO 63131
314-567-4373
BERGNER, GRACE E IM
GRANT MEDICAL CLINIC
114 N. TAYLOR
ST LOUIS, MO 63108
314-534-8600
BERLAND, HARRY I R
141 N MERAMEC
CLAYTON, MO 63105
314-721-0242
BERMAN, WM OBG
4910 FOREST PARK BLVD
ST LOUIS, MO 63108
314-361-5220
BERNABE, FLORINIO H OBG
1642 FRONTENAC WOODS LANE
ST LOUIS, MO 63131
314-544-3700
BERNABE, OFELIA M IM
1642 FRONTENACWOOD LANE
FRONTENAC, MO 63131
314-544-3700
BERNDSEN, GERARD H FP
12933 TOPPING ESTATES
ST LOUIS, MO 63131
314-962-7875
BERNI, ANTHONY A R
777 S NEW BALLAS ROAD
ST LOUIS, MO 63141
314-567-4350
BERNSTEIN, AARON M IM
7171 DELMAR
ST LOUIS, MO 63130
314-863-0033
BERRY, JOHN W IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-7500
BERWALD, DAVID M GS
3478 BRIDGELAND SUITE #2
BRIDGETON, MO 63044
314-739-8200
BERWALD, IRVIN I FP
747 OLD BONHOMME RD.
ST LOUIS, MO 63132
314-731-2080
BETTONVILLE, PAUL J IM
324 QUAN
ST LOUIS, MO 63122
314-965-7201
BETTONVILLE, PETER V IM
143 HUNTLEIGH FOREST DR.
ST. LOUIS, MO 63122
314-645-7721
BHATTACHARYA, ARJUN GS
7200 MANCHESTER RD
ST LOUIS, MO 63143
314-645-7744
BHATTACHARYA, SARWATH IM
9903 GRAVOIS
AFFTON, MO 63123
631-620-0000
BHUYAN, MAHENDRA IM
2900 LEMAY FERRY RD.
ST. LOUIS, MO 63125
314-894-1668
BIALECKI, LEON IM
11133 DUNN RD.
ST LOUIS, MO 63136
314-355-2300
BIDDY, RALPH L P
965 MASONRIDGE RD
ST LOUIS, MO 63141
314-567-5185
BIELLO, DANIEL R DR
510 SOUTH KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-2809
BIGGS, F D IM
950 FRANCIS PL.
ST. LOUIS, MO 63117
314-063-0009
BIGGS, JOHN P
1034 SO BRENTWOOD
SUITE 800
ST LOUIS, MO 63117
314-863-2244
BILCHIK, RONALD C OPH
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-9902
BILLY, LAWRENCE J GS
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-838-5600
BILSKY, NATHAN IM
2851 NE 183RD ST
MIAMI, FL 33160
BINDBEUTEL, DONALD A GS
25 WILLOW OAK LANE
ST LOUIS, MO 63122
314-647-0825
BINDER, MORTON A IM
4652 MARYLAND AVE
ST LOUIS, MO 63108
314-367-3113
BINNINGTON, H B GS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666
BIRCHER, JOHN L R
3932 FEDERER PLACE
ST LOUIS, MO 63116
314-042-5600
BIRD, H W P
62 CONWAY LANE
ST LOUIS, MO 63124
314-997-2783
BIRENBAUM, AARON IM
10511 OLD OLIVE ST RD
ST LOUIS, MO 63141
314-993-2660
BIRGE, CLIFFORD A IM
5535 DELMAR
ST. LOUIS, MO 63112
BISHOP, MARION D GS
751 ST FRANCIS ST
FLORISSANT, MO 63031
314-837-0505
BISNO, DANL OPH
523 MIDVALE
ST. LOUIS, MO 63130
314-432-1134
BLACK, JOSEPH T N
BARNES HOSPITAL PLAZA
SUITE 16304
ST LOUIS, MO 63110
314-367-3122
BLAIR, JOHN DOUGLAS PTH
1402 S. GRAND
ST LOUIS, MO 63104
314-664-9800
BLAIR, OLGA M PTH
1402 S GRAND
ST LOUIS, MO 63104
314-664-9800
BLAIR, VILRAY P III ORS
4989 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-362-6548
BLAIR, VILRAY P ORS
42 MAGNOLIA DR.
ST LOUIS, MO 63124
314-862-2552
BLAISE, DALE W FP
215 N. 14TH ST.
MURPHYSBORO, IL 62966
BLANKE, THOMAS J GS
621 S NEW BALLAS RD
ST. LOUIS, MO 63141
314-569-0227
BLASKIEWICZ, ROBERT J OBG
2821 N. BALLAS ROAD
SUITE 105
ST. LOUIS, MO 63131
BLATH, RICHARD A U
224 S. WOODS MILL RD.
SUITE 510
CHESTERFIELD, MO 63017
314-434-3433

BLAUFUSS, MARK C PD
3319 BOHNET BLVD.
FARGO, ND 58102
BLEISCH, VIRGIL R PTH
6150 OAKLAND AVE
ST. LOUIS, MO 63139
314-645-8510
BLOCK, ARNOLD S P
4501 LINDELL BLVD.
ST LOUIS, MO 63108
314-361-8381
BLOOMBERG, GORDON R PD
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
BLUMENTHAL, MARK F GS
12255 DEPAUL DR., SUITE 800
BRIDGETON, MO 63044
314-291-8130
BLYTHE, JAMES G OBG
615 S NEW BALLAS RD
ST LUUIS, MO 63141
314-569-6080
BOBROW, JAMES C OPH
211 NORTH MERAMEC
ST LOUIS, MO 63105
314-721-0854
BOCK, LINDA P PD
777 S. NEW BALLAS #132W
ST. LOUIS, MO 63141
432-734-0000
BOEDEKER, JAMES P OBG
1035 BELLEVUE AVE
SUITE 205
ST. LOUIS, MO 63117
314-644-6262
BOHIGIAN, G M OPH
456 N NEW BALLAS RD.
SUITE 259
ST LOUIS, MO 63131
314-569-1155
BOLDIZAR, ALBERT G OPH
1048 S MCKNIGHT RD.
ST LOUIS, MO 63117
BOLDT, THOS H IM
3394 MC KELVEY RD
BRIDGETUN, MO 63044
314-739-5070
BOLES, C R PD
35 N CENTRAL AVE
CLAYTON, MO 63105
314-725-9100
BOLINSKE, ROBT E A
11722 STUDT AVE
ST LOUIS, MO 63141
314-569-0510
BOLLOZOS, GEORGE D PTH
3933 S BROADWAY
ST LUUIS, MO 63118
314-865-3333
BOLTON, ROBERT L OM
2949 OLIVE
ST LOUIS, MO 63103
314-531-4722
BONACORSI, JOHN OTO
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-5307
BOND, LESLIE F GS
3400 N KINGS HWY
ST LOUIS, MU 63115
314-385-3600
BONDURANT, BRYCE H UBG
P.O. BOX 1199
GREEN VALLEY, AZ 85614
BONFANTI, ALBERT L OBG
P O BOX 4148 JENNINGS S
ST LOUIS, MO 63136
314-381-5557
BUNFILI, HUBERT F AM
800 NORTH LINDBERG BLVD.
ST. LUUIS, MO 63167
314-694-8896
BONIUK, ISAAC OPH
EAST PAVILIUN SUITE 17413
4949 BARNES HUSP. PLAZA
ST LOUIS, MO 63110
314-367-1181
BONSANTI, ROBT L IM
3394 MC KELVEY RD
BRIDGETON, MO 63044
314-291-3410
BOONKHAM, CHOTCHAI IM
3478 BRIDGELAND DR
BRIDGETON, MO 63044
314-291-3717
BOONSHAFT, BENJE IM
10511 OLD OLIVE ST RD
ST LOUIS, MO 63141
314-993-2660
BORODACH, GEROLD N AN
2639 MIAMI
ST. LOUIS, MO 63118
772-145-0000
BOROWSKY, BENJ A IM
4910 FOREST PARK
ST LOUIS, MO 63108
314-367-2757

BORTNICK, ARTHUR R OBG
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2424
BOSCHE, ALFRED J OBG
456 NORTH NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-2022
BOUHASIN, JOHN D PD
3720 HAMPTON
ST LOUIS, MO 63109
314-351-8484
BOURJOLLY, WILSON P OPH
900 N HIGHWAY 67
(LINDBERGH)
FLORISSANT, MO 63031
314-838-0300
BOURKE, THOS E IM
3394 MC KELVEY RD
BRIDGETON, MO 63044
314-739-5070
BOVERI, JOS C OBG
533 COUCH AVE. RM G71
ST LOUIS, MO 63122
314-821-2004
BOWDERN, EDWARD H GS
4440 LINDELL
APT. 1102
ST LOUIS, MO 63108
BOWEN, STEPHEN F OPH
16 HAMPTON VILLAGE PLZ
ST LOUIS, MU 63109
314-351-5330
BOWEN, WILLIAM G IM
4652 MARYLAND AVE.
ST. LOUIS, MO 63108
314-367-3113
BOWER, RICHARD GS
500 S. KINGSHIGHWAY BLVD.
ST LOUIS, MU 63110
314-454-6022
BOWERMAN, HAROLD H OTO
7 CLAYTON TERR.
ST LOUIS, MO 63131
314-533-5233
BOWERS, JAMES E PD
533 COUCH AVENUE
ST. LOUIS, MO 63122
314-966-3324
BOWERSOX, WARREN A GS
319 N 1ST ST
PACIFIC, MO 63069
314-257-3500
BOWLES, G R IM
12166 OLD BIG BEND
ST LOUIS, MO 63122
314-821-9150
BOWLES, WM T U
SUITE 17301 WEST PAVILIUN
BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-361-2052
BOYARSKY, SAUL U
4960 AUDUBON AVE
ST LOUIS, MO 63110
314-362-6987
BRADLEY, RICHARD V GS
1034 S BRENTWOOD BLVD
ST LOUIS, MU 63117
314-727-2011
BRADSHAW, ROBERT J PD
#3 DORCHESTER COURT
ST. PETERS, MO 63376
BRADY, HARRY R OPH
1609 DUNMRR DR
ST LOUIS, MO 63131
314-432-6137
BRANCATO, DONALD H ORS
11115 DUNN RD.
ST LOUIS, MO 63136
314-355-7717
BRAND, EARL L GP
120 E LOCKWOOD
ST LOUIS, MO 63119
314-961-3038
BRANDWIN, LESLIE M IM
4910 FOREST PARK BLVD.
ST. LOUIS, MO 63109
314-367-2757
BRANGLE, ROBT W PTH
C/O ALLEN MED. LABORATORIES
2204 WELSCH INDUSTRIAL
ST LUUIS, MO 63141
314-645-8510
BRAUFMAN, HARVEY S OPH
1750 MEDICAL ARTS
MINNEAPOLIS, MN 55402
612-338-4861
BREMER, RITA F IM
3024 ORTON ST
ST CHARLES, MU 63301
BREMS, JOHN J GS
1946 GREENPOINT #101
KIRKWOOD, MO 63122
314-966-0638
BRENNAN, DANL J PS
621 S. NEW BALLAS RD.
SUITE 1003
ST LOUIS, MO 63141
314-567-3737

BRENNAN, GEO A OBG
5205 CHIPPEWA ST.
SUITE 303
ST LOUIS, MO 63109
314-726-2205
BRENNAN, ROBERT A JR OB
5376 FERBET ESTATES DR.
ST. LOUIS, MO 63128
314-351-5700
BRENNAN, ROBT V U
533 COUCH AVE.
KIRKWOOD, MO 63122
314-966-4862
BRENNAN, ROBT A SR OBG
6030 HIGHFIELD
ST LOUIS, MO 63109
314-752-3283
BREFRETON, ROBT L GS
206 N CLAY AVE
KIRKWOOD, MO 63122
314-821-4300
BRICKER, EUGENE M GS
43 HIOHGATE RD
ST. LOUIS, MO 63132
BRIELMAIER, CHARLES AN
6420 CLAYTON
ST LOUIS, MO 63117
314-644-3000
BRIGHAM, DAVID W OPH
1103 DOVERGATE
ST LOUIS, MO 63122
314-391-0233
BRIMMO, A I GS
6000 W FLORISSANT
ST LOUIS, MO 63136
314-381-5150
BRINKMAN, ROBERT A IM
522 N. NEW BALLAS
ST. LOUIS, MO 63141
314-567-3113
BRION, PACELLI E P
3535 S. JEFFERSON
ST LOUIS, MO 63118
314-776-1344
BRISCOE, JOHN R GP
7346 A MANCHESTER
ST. LOUIS, MO 63143
314-645-5302
BRODELL, ROBERT T D
4400 LINDELL #8J
ST. LOUIS, MU 63108
314-533-3944
BRODEUR, ARMAND E R
1465 S GRAND AVE
ST LOUIS, MU 63104
314-577-5654
BRODY, ARNOLD G FP
3654 S. GRAND
ST LOUIS, MO 63118
314-865-4700
BRONSON, SHAEL S P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8869
BROOKES, ROBT D P
224 SO WOODS MILL RD.
SUITE 360
CHESTERFIELD, MO 63017
314-878-7048
BROUN, GORONWY O JR IM
6359 WATERMAN AVE
ST LOUIS, MO 63130
314-771-7600
BROWN, BARRY D IM
6125 CLAYTON SUITE 412
CLAYTON, MO 63139
314-645-6161
BROWN, FREEMAN F III AN
218 HOLLYBERRY CT
BALLWIN, MO 63011
314-391-6606
BROWN, JAMES M FP
11936 BETH DR
ST LOUIS, MO 63126
314-867-3600
BROWN, SEYMOUR AN
BAY PINES VA MEDICAL CENTER
BAY PINES, FL 33504
BRUCE, HELEN L PH
3263 HAWTHORNE BLVD.
ST LOUIS, MO 63104
BRUNS, KENNETH AN
P.O. BOX 16823
ST LOUIS, MO 63105
314-434-0600
BRUNT, L. MICHAEL GS
7051 WATERMAN
ST. LOUIS, MO 63130
314-721-7983
BRYAN, JAMES H OPH
242 BRISTOL RD.
ST. LOUIS, MO 63119
BRYAN, WM T OTO
9349 PARKSIDE DRIVE
ST. LOUIS, MO 63144
BUCHOLZ, RICHARD D N
NO. 3 KINGSBURY PLACE
ST. LOUIS, MO 63112
314-771-7600

BUCY, JAMES G U
BARNES HOSP. PLAZA
SUITE 17-302
ST LOUIS, MO 63110
314-361-4880
BUDD, JOHN J JR IM
9012 MANCHESTER RD
ST LOUIS, MO 63144
314-962-2170
BUETTNER, JOHN BRIGHAM GS
3106 QUEENY TOWERS
BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-362-7272
BURCH, PHILLIP M PTH
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6000
BURCHETT, ROBERT B IM
7012 STANFORD
ST. LOUIS, MO 63130
314-361-1212
BURDE, RONALD M OPH
660 S EUCLID AVE
ST LOUIS, MO 63110
314-362-7168
BURDGE, ROBERT E ORS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7643
BURGDORF, MAX H PD
12303 DE PAUL DR.
BRIDGETON, MO 63044
314-344-6000
BURGESS, DEAN OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-1181
BURKE, ROBT J PD
6379 DEVONSHIRE AVE
ST LOUIS, MO 63109
314-032-2877
BURKHART, EDWARD F D
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5711
BURKS, ROBERT T ORS
3009 NORTH BALLAS RD.
ST. LOUIS, MO 63131
314-569-0612
BURMEISTER, RAY W IM
2900 LEMAY FERRY RD.
ST LOUIS, MO 63125
314-894-2650
BURNS, EDWARD L IM
4600 S. LINDBERGH
ST. LOUIS, MO 63127
314-842-5211
BURNS, FRANCIS J CRS
6500 ELLENWOOD
ST LOUIS, MO 63105
BURNSIDE, CHAS R GP
206 W ARGONNE
KIRKWOOD, MO 63122
314-821-5798
BURR, DONALD C R
456 N NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-1644
BURRIS, GARRETT C PD
227 BENDEL RD.
LAFAYETTE, LA 70503
318-233-7531
BURST, DONALD O ORS
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-647-2014
BURSTEIN, ROBT OBG
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-721-8852
BUSCH, ANTHONY K P
6600 W. MAIN ST.
SUITE #8
BELLEVILLE, IL 62223
618-397-4466
BUSSE, PAUL R
120 W MERMOD
ST LOUIS, MO 63122
314-878-4680
BUSSMANN, CARL E GS
1546 COTTON TREE DR.
ST. LOUIS, MO 63146
314-291-8130
BUSSMANN, DONALD W CD
746 FAIRFIELD LAKE DRIVE
CHESTERFIELD, MO 63017
BUTCHER, HARVEY R GS
SUITE 5103 QUEENY TOWER
4989 BARNES HOSPITAL
ST LOUIS, MO 63110
314-362-7408
BUTSCH, RICHARD H IM
901 CLAYTON RD
BALLWIN, MO 63011
314-227-2707

BYRUM, FRITZ A FP
P. O. BOX 46
BALLWIN, MO 63011
314-527-6960
CABAL, EDITO R
11701 LAKESHORE DR.
ST LOUIS, MO 63141
CABAL, MARIA PD
1501 E BROADWAY
EAST ST LOUIS, IL 62205
618-272-4700
CABBABE, EDMOND B PS
1325 S. GRAND
ST. LOUIS, MO 63104
314-771-7600
CABONCE, AUGUST L FP
4439 N. HWY 67
FLORISSANT, MO 63034
314-741-1908
CABRAL, GALILEU IM
14377 WOODLAKE DR
CHESTERFIELD, MO 63017
314-878-4430
CACIOLO, CARLO P IM
3654 S GRAND BLVD
ST LOUIS, MO 63118
CACIOPPO, JOS E GP
1040 N MASON RD N
ST LOUIS, MO 63141
314-878-5000
CADICE, JOHN B OBG
1245 GRAHAM RD
APT 408
FLORISSANT, MO 63031
314-838-8000
CAJILI, ANTONIO T IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5647
CALCATERRA, CURT E IM
3838 JEFFCO BLVD.
ARNOLD, MO 63010
314-464-0380
CALLAGHAN, GERARD M OBG
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-4460
CALLAHAN, DONALD E R
11155 DUNN RD RM 201
ST LOUIS, MO 63136
314-355-5030
CALLAHAN, JOS D CHP
22 W BRENTMOOR PARK
ST LOUIS, MO 63105
314-725-7371
CALODNEY, MARTIN M PD
8112 DELMAR BLVD.
ST LOUIS, MO 63130
CAMEL, H M OBG
906 CHAPEL OAKS
ST LOUIS, MO 63131
314-362-3181
CAMPBELL, J. WILLIAM IM
935 RIDGETREE LANE
ST. LOUIS, MO 63131
314-965-4291
CAMPOS, FRANCISCO J PTH
11636 ADMINISTRATION DR
ST LOUIS, MO 63141
314-567-3905
CANAAN, SAML A OPH
5505 DELMAR BLVD.
ST LOUIS, MO 63112
314-367-7077
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555 N. NEW BALLAS RD. #100
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CARRON, MICHAEL J R
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CASEY, EDWIN J OPH
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CREVE COUER, MO 63104
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CRESPIN, STEPHEN R IM
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DOHRN-WEISMAN, RENATE OBG
3470 BRIDGELAND DR. #4
BRIDGETON, MO 63044
314-291-3770

DOISY, PHILIP P IM
325 N KIRKWOOD RD
KIRKWUOD, MO 63122
314-822-0635

DOISY, ROBT A IM
103 EDWIN
GLENDALE, MU 63122
314-821-5051

DOLAN, JOHN T JR GS
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

DOLAN, PATRICK H AN
12064 CRAB THICKET DR.
DES PERES, MO 63131
314 427-6102

DOLAN, RENEE C IM
12864 CRAB THICKET DR.
DES PERES, MO 63131
314-821-8907

DONAHOE, JAMES L PD
37 WEST BRENTMOUR
CLAYTON, MU 63105
314 391-6300

DONALDSON, ROBT C PS
915 N. GRAND BLVD
ST LOUIS, MO 63106
314-652-4100

DONATI, ROBT M NM
1402 S. GRAND
ST LOUIS, MO 63104
314-664-9800

DONLEY, LEO F GS
2425 N BROADWAY
ST LOUIS, MO 63102
314-241-4455

DONOVAN, JOHN F GS
10007 KENNERLY RD.
ST LOUIS, MU 63128
314-049-2727

DONOVAN, THOS J OTO
950 FRANCIS PLACE
SUITE 309
ST LOUIS, MO 63105
314-725-4994

DOOLEY, JOSEPH M JR N
ST. LUKES EAST MED. BLDG
5505 DELMAR SUITE 307
ST LOUIS, MO 63112
314-367-7320

DORTON, ROBT K IM
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-862-5252

DOUGHERTY, CHARLES H PD
13131 TESSON FERRY RD.
ST LOUIS, MU 63128
314-843-0500

DOWELL, GEO H P
3009 N BALLAS RD.
SUITE #110
ST LOUIS, MO 63131
314-567-5000

DOWNEY, RICHARD S GS
9016 LAWN AVE.
BRENTWOOD, MO 63144
314-367-6140

DOYLE, CHAS R GS
9053 MONMOUTH DR.
ST LOUIS, MO 63117

DRACE, CHARLES C JR GS
19 E LOCKWOOD AVE
ST LOUIS, MO 63119
314-962-3200

DRAKE, WILLIAM L JR PTH
MISSOURI BAPTIST HOSP
3015 N BALLAS RD
ST LOUIS, MO 63131
314-432-1212

DRESCHER, EMMETT B GS
619 HAVERFORD RD.
ST LOUIS, MO 63124
314-725-8444

DREWS, ROBT C OPH
211 N MERAMEC
ST LUUIS, MO 63105
314-721-0854

DREY, NORMAN W IM
950 FRANCIS PL STE 205
CLAYTON, MO 63105
314-863-1211

DREYER, CARL J OBG
45 GLEN ROAD
WEBSTER GROVES, MU 63119
314-961-2901

DROZDA, JOSEPH P JR CD
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-0824

DRUCK, NURMAN S OTO
35 N. CENTRAL AVE.
CLAYTON, MO 63105
314-721-5444

DU MONTIER, ALAN J FP
P. O. BOX O
O'FALLON, MO 63366
314-272-3701

DU MONTIER, CHARLES C.D. R
4000 CLEVELAND
ST. LOUIS, MO 63110
314-065-4710

DUBUQUE, THEODORE J JR GS
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6300

DUEMLER, ROBT H OBG
12166 BIG BEND BLVD
KIRKWOOD, MO 63122
314-021-3500

DUFFY, FRANCIS G AN
8116 UNIVERSITY DR
ST LOUIS, MO 63105
314 361-1212

DUGAS, HENRY C FP
3737 N. KINGSHIGHWAY BLVD.
ST. LOUIS, MU 63115
314 382-0477

DUGGAN, JUHN J JR OBG
533 COUCH AVENUE
ST LOUIS, MU 63122
314-022-1259

DUMADAG, VIRGILIU P PTH
3015 N BALLAS RD
ST LOUIS, MO 63131
314-432-1212

DUNN, ROBERT C JR NS
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-3620

DUREL, JUSTIN H OBG
2021 N. BALLAS RD.
ST. LOUIS, MO 63131
314-872-7400

DURR, JON W PTH
2204 WELSCH INDUSTRIAL CT.
ST LOUIS, MO 63141
314-432-1850

DUSEK, DENNIS A ORS
12615 OLD TESSON RD.
ST. LOUIS, MU 63128
314-049-0311

DUVALL, JOSEPH M D
621 S NEW BALLAS RD
ST. LOUIS, MO 63141
314-432-3033

DWYER, JAMES G IM
13611 BARRETT OFFICE DR.
BALLWIN, MO 63011
314-965-9980

DWYER, JOSEPH C IM
13611 BARRETT OFFICE DR.
BALLWIN, MO 63011
314-965-9980

DYER, DALLAS J IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

DZUNDZEV, PENCO T FP
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-832-2191

EACHEMPATI, RAMA G NM
6304 S. GRAND BLVD.
ST. LOUIS, MO 63111
314-353-1706

EACHEMPATI, UMA R OBG
14499 LADUE RD.
CHESTERFIELD, MO 63017
314-464-1000

EADES, JOS W PS
4910 FOREST PARK
ST LOUIS, MO 63108
314-367-5012

EAGLETON, MARK D R
MARI DE VILLA RETIREMENT CTR
13900 CLAYTON RD.
MANCHESTER, MO 63011

EBEL, EUGENE H PD
11115 NEW HALLS FERRY RD
FLORISSANT, MU 63033
314-838-5900

EBERLE, VINCENT L OBG
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-063-2311

ECK, BIRKLE IM
1819 CAMBERLY ROAD
ST LOUIS, MU 63131
314-726-2820

ECKER, DESIDER B FP
222 GLENELLEN PL
SUN CITY CENTER, FL 33570

ECKERT, CLARENCE T GS
2295 GULF OF MEXICO DR
APT. 82 - SOUTH
LONGBOAT KEY, FL 33548

EDELE, EUGENE H FP
3090 FEDERER PL
ST LOUIS, MU 63116
314-352-3770

EDELMAN, ALAN H DR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284

EDWARDS, JAMES E CHP
WOODS MILL 40 MED CTR.
14377 WOODLAKE DR 301
CHESTERFIELD, MO 63017
314-569-6586

EDWARDS, JUS C IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-3744

EGAN, ROBT C GS
1034 S. BRENTWOOD BLVD.
SUITE 776
ST LOUIS, MO 63117
314-863-6006

EGAN, THOS F R
9852 NORTHBRIDGE
ST LOUIS, MO 63124
314-434 1500

EGGLESTON, HARRY C OPH
621 S NEW BALLAS RD
ST LOUIS, MU 63141
314 872-0824

EGGLESTON, THOS F OPH
621 S NEW BALLAS
ST LOUIS, MO 63141
314-991-5533

EHRLICH, CARL F OTO
3009 N BALLAS RD.
SUITE 212
ST LOUIS, MO 63141
314-567-6533

EIDELMAN, JACK R P
141 N MERAMEC
ST LOUIS, MO 63105
314-062-0555

EISEN, ARTHUR Z D
BARNES HOSP PLAZA
ST LOUIS, MU 63110
314-362-6970

EKUNND, JOSIAH O OBG
BOX 5340
ST. LOUIS, MO 63115
314-305-9904

ELCOCK, DEVERA M FP
2326 CLAYMUOR DR.
CHESTERFIELD, MO 63017
314-525-1905

ELDER, DONALD G FP
19 NORTH TAYLOR
ST. LOUIS, MU 63100

ELIASSON, SVEN G N
660 S EUCLID
ST LOUIS, MO 63110
314-362-7171

ELLER, CHAS H PH
250 E ALAMEDA
SANTA FE, NM 87501

ELLERSIECK, DOROTHY M FP
11160 VILLAGE NORTH DR.
APT OAKWOOD 117
ST LOUIS, MO 63136
ELLIOTT, JOHN D AN
15951 SEWELL CT.
CHESTERFIELD, MO 63017
314-532-2515
ELLSASSER, JAMES C ORS
1034 BRENTWOOD BLVD
ST LOUIS, MO 63117
314-725-0881
EMERAN, GEORGE J U
600 NORTH UNION
ST LOUIS, MO 63108
314-367-1028
EMERSON, DANIEL P EM
615 S. NEW BALLAS RD.
CREVE COEUR, MO 63141
314-569-6090
EMERSON, WILLIAM A IM
11155 DUNN RD STE 3-11E
ST LOUIS, MO 63136
314-355-5597
EPSTEIN, JAMES M IM
ST. LOUIS MEDICAL CLINIC
3009 NO. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111
ERNST, EDWIN C III DR
12457 BALWYCK
ST. LOUIS, MO 63131
314-878-4680
ERNST, EDWIN C JR R
14377 WOODLANE DR
SUITE 110
CHESTERFIELD, MO 63017
314 291-6160
ERNST, JOS C IM
325 N KIRKWOOD RD
KIRKWOOD, MO 63122
314-966-7265
ERNST, RICHARD E R
14377 WOODLANE DR
SUITE 110
CHESTERFIELD, MO 63017
314-878-4680
ERNST, ROLAND P R
12327 CREEKHAVEN
ST LOUIS, MO 63131
314-878-4680
ESCOBEDO, BOLIVAR M OBG
13975 MANCHESTER ROAD
MANCHESTER, MO 63011
314-394-6070
ESCOFFERY, RICHARD F OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSPITAL
ST LOUIS, MO 63110
314-367-1181
ESCUDER, CLARA E PD
7320 TULANE
UNIVERSITY CITY, MO 63130
314-644-2566
ESSLINGER, ARTHUR I OBG
816 IDLEWILD WAY
SIESTA KEY
SARASOTA, FL 33581
ESTHER, JAMES H IM
3009 N BALLAS SUITE 100
ST. LOUIS, MO 63131
314-432-1111
ESTRADA, CORAZON D IM
11155 DUNN RD
ROOM 104
ST LOUIS, MO 63136
314-355-0060
ESTRADA, JESUS I FP
1610 MASON RD.
ST LOUIS, MO 63131
314-355-0060
ETHEREDGE, EDWARD E GS
WASH UNIV DEPT SURG
4989 BARNES HOSP PLZ
ST LOUIS, MO 63110
314-362-7410
ETIENNE, ROBT B IM
P. O. BOX 11968
ST LOUIS, MO 63112
314-721-4499
ETO, JACKSON K PD
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-644-2727
ETTELSON, CHARLES D PS
224 S. WOODS MILL RD.#590
CHESTERFIELD, MO 63017
314-878-7770
EVANS, LAWRENCE G JR ORS
1325 S GRAND
ST LOUIS, MO 63104
314-771-7643
EVENS, RONALD G R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-7100
EVERSOLL, NORTON J OS
1455 TYLER ST
HOLLYWOOD, FL 33020

EXARHOU, KLARK GS
777 S NEW BALLAS ROAD
ST LOUIS, MO 63141
314-432-2811
EYERMAN, EDWARD L N
1035 BELLEVUE AVE
SUITE 304
ST LOUIS, MO 63117
314-644-7177
FABIAN, LEONARD W AN
660 S EUCLID
ST LOUIS, MO 63110
314-362-6973
FABITO, DANIEL C GS
3009 N. BALLAS RD.
SUITE 202
ST. LOUIS, MO 63131
314-872-8345
FABITO, MELINDA A IM
P. O. BOX 446
#8 VILLAGE CENTER
EUREKA, MO 63025
314-938-4956
FAIR, WM R U
1275 YORK AVE.
NEW YORK, NY 10021
FALLON, RICHARD H GS
4949 BARNES HOSP PLAZA
STE 16306
ST LOUIS, MO 63110
314-362-7031
FARON, MARK A IM
546 HUNTLEY HEIGHTS DR.
ST. LOUIS, MO 63011
FARRELL, JOHN S IM
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-8824
FARRELL, ROBT J IM
9060 SARANAC DR
ST LOUIS, MO 63117
FARZANA, FARIDA P
100 N. EUCLID STE #305
ST. LOUIS, MO 63123
314-361-6885
FATHMAN, ANTHONY E U
224 S. WOODS MILL RD.
SUITE 510
CHESTERFIELD, MO 63017
314-434-3433
FEDAK, MICHAEL J IM
1759 GOLDENHORN CT.
MARYLAND HGHTS, MO 63043
314-469-3811
FEHLMAN, BERNARD F AN
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
FEIBEL, ROBT M OPH
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-727-6716
FEIT, ROBERT M U
6500 CHIPPEWA ST.
ST. LOUIS, MO 63109
314-351-0155
FELDMAN, DAVID IM
11501 LAKESHORE DR
ST LOUIS, MO 63141
314-569-2611
FELDMAN, MARK R OBG
1040 N. MASON RD.
ST. LOUIS, MO 63141
314 434 6020
FELICIANO, WILFRIDO C PS
11155 DUNN RD.
SUITE 202E
ST. LOUIS, MO 63136
314-355-5333
FELIX, ROBT H P
10501 INDIAN WELLS DR
SUN CITY, AZ 05351
FELLER, HAROLD H FP
NORTHLAND MD BLD ST 201
ST LOUIS, MO 63136
314-382-3334
FELLHAUER, CARL M ORS
1035 BELLEVUE
RICHMOND HTS., MO 63117
314-645-5990
FELTS, JAMES A AN
45 BERRY RD PARK
ST LOUIS, MO 63122
314-362-6973
FERGUSON, THOS B CDS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-0122
FERRENDELLI, JAMES A N
660 S EUCLID
ST LOUIS, MO 63110
314-362-3299
FERRIS, CHARLES W JR PTH
P.O. BOX 1442
BALLWIN, MO 63011
314-432-1212
FERRY, RICHARD J N
141 MERAMEC ST
CLAYTON, MO 63105
314-726-3202

FEUTZ, EDWARD P R
730 MIDDLE POLO
CLAYTON, MO 63105
314-447-6600
FIGUEROA, EDDUYN CHP
77 WEST PORT PLAZA
SUITE 359
ST LOUIS, MO 63141
314-434-6260
FIGUEROA, ELISEO O IM
11155 DUNN RD
ST LOUIS, MO 63136
314-355-2180
FINGERHOOD, MARVIN G IM
4770 N. 7TH ST. #3195
PHOENIX, AZ 85014
FINGERT, HYMAN H P
4542 MARYLAND AVE.
ST LOUIS, MO 63108
314-367-6623
FINK, LEROY L GS
11155 DUNN RD STE 206
ST LOUIS, MO 63136
314-741-3400
FINKEL, BARNEY W FP
6508 W FLORISSANT
ST LOUIS, MO 63136
314-385-7500
FINN, MURRAY E P
1035 BELLEVUE STE 202
ST LOUIS, MO 63117
314-644-6200
FINNEGAN, JOS V IM
1035 BELLEVUE ST
ST LOUIS, MO 63117
314-644-6444
FIORDELISI, ROCCO J GS
700 HAVERFORD RD
ST LOUIS, MO 63124
314-644-4220
FISCHBEIN, LEWIS C RHU
4949 BARNES HOSP. PLAZA
SUITE #16422
ST. LOUIS, MO 63110
314-367-9595
FISCHER, JOHN R P
12255 DEPAUL DR
BRIDGETON, MO 63044
314-291-2500
FISCHER, ROBERT IM
533 COUCH AVE
ST. LOUIS, MO 63122
314-966-0500
FISH, VIRGIL O GS
2500 TOWN & COUNTRY LA.
ST LOUIS, MO 63131
314-721-5488
FISHER, LINDA IM
4664 PERSHING PLACE
ST LOUIS, MO 63100
FISHMAN, JOHN J AN
3015 N BALLAS RD
ST LOUIS, MO 63131
314-569-5188
FISHMAN, NORMAN IM
224 S. WOODS MILL RD.
SUITE 220
CHESTERFIELD, MO 63017
314-469-6224
FITZGERALD, LEO P OBG
BETHESDA HOME
9645 BIG BEND
ST LOUIS, MO 63122
FIVIAN, GERALD J OPH
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-2655
FLANCE, ISRAEL J PUD
4652 MARYLAND
ST LOUIS, MO 63108
314-267-3113
FLANIGAN, GEO D OBG
100 N EUCLID AVE.
SUITE 902
ST LOUIS, MO 63108
314-361-3060
FLEISCHMAN, JAY A OPH
3655 VISTA AVE
ST. LOUIS, MO 63110
314-772-9200
FLEISHMAN, ALFRED IM
APT#106 920 GUELBRETH LANE
ST LOUIS, MO 63141
FLETES, JAMES W FP
7270 NATURAL BRIDGE AVE
ST LOUIS, MO 63121
314-383-2156
FLIESHER, EDWARD B PD
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6150
FLORES, JHONSON E AN
442 CHESHIRE FARM CT.
ST. LOUIS, MO 63141
FLORES-VEGA, CARLOS H IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

FLORO, KENNETH E JR GS
1035 BELLEVUE
SUITE 314
ST, LOUIS, MO 63117
314-644-2202
FLORO, MARIANO N GS
11115 NEW HALLS FERRY R
FLORISSANT, MO 63033
314-830-5600
FLOTTE, BERNARD H IM
6 LILA LANE
FLORISSANT, MO 63033
FLOTTE, SYLVESTER A IM
466 RUNNYMEDE DR
ST LOUIS, MO 63141
314-837-1130
FLUG, ERIC J PD
533 COUCH
KIRKWOOD, MO 63122
314-966-3324
FLURY, KIRK E IM
533 COUCH AVE, STE. 180
KIRKWOOD, MO 63122
314-822-3122
FLYNN, EDWARD IM
9730 E. WATSON RD.
ST. LOUIS, MO 63126
314-043-7000
FLYNN, JOHN T FP
3211 S GRAND BLVD
ST LOUIS, MO 63118
314-771-2070
FLYNN, JOS E GS
621 S NEW BALLAS
ST LOUIS, MO 63141
314-872-0386
FOGARTY, WILLIAM M JR IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
FORAND, JOSEPH M AN
5900 APPLE VALLEY
AFFTON, MO 63123
314-832-1839
FORD, LEE T ORS
WASHINGTON UNIVERSITY
4960 AUDUBON
ST LOUIS, MO 63110
314-362-2014
FORD, THOMAS E OPH
2808 CUMBERLAND DR. #3A
VALPARASIO, IN 46383
FORSMAN, WALDO W IM
9436 GRAVOIS
ST LOUIS, MO 63123
314-631-2421
FORSYTH, B. TODD IM
100 N EUCLID
ST LOUIS, MO 63108
314-367-8811
FORTI, JOHN J FP
12502 BROADRIDGE LANE
FLORISSANT, MO 63033
314-429-0859
FOX, LEON J ORS
903 SO. WARSON RD.
ST LOUIS, MO 63124
FOX, ROBT E IM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-8050
FRANCISCO, DOMINIC S R
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-4350
FRANK, ALVIN R P
4524 FOREST PARK AVE.
ST LOUIS, MO 63108
FRANKEL, SCOTT J IM
8035 WEST 115TH ST.
OVERLAND PARK, KS 66210
FRANKLIN, HAROLD A IM
16 HAMPTON VILLAGE PLAZA
ST LOUIS, MO 63109
314-752-4600
FRANKLIN, MAX S CD
585 COEUR DE ROYALE #401
ST LOUIS, MO 63141
FRASER, DANL M TS
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-644-6300
FRAWLEY, THOS F IM
OFF GRAD. MED. EDUCATION
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6934
FREDERICK, RAYMOND O GS
6125 CLAYTON AVE. SUITE 424
ST. LOUIS, MO 63139
314-645-8200
FREDRICKSON, JOHN M OTO
DEPT OF OTO
517 S. EUCLID
ST. LOUIS, MO 63110
314-721-7862
FREEDMAN, RUTH S OPH
10287 CLAYTON ROAD
ST LOUIS, MO 63124
314-991-1172

FREEL, JAMES H OBG
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-776-8100
FREIMAN, S. MICHAEL OBG
1034 S. BRENTWOOD #616
ST LOUIS, MO 63117
314-727-4333
FRIEDMAN, PAUL L AN
7332 CORNELL
ST LOUIS, MO 63130
314-768-8300
FRIEDMAN, ROBT H PD
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-8602
FRIEDMAN, WILLIAM H OTO
1325 SOUTH GRAND BLVD.
2ND FLOOR
ST. LOUIS, MO 63104
314-771-8087
FRIEDRICH, ANTHONY P EM
12303 DEPAUL DR
BRIDGETON, MO 63044
314-344-6360
FRIEDRICH, ERNST R OBG
4911 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-362-1019
FRIES, ARMAND D OTO
11 W GEYER LN
ST LOUIS, MO 63131
314-842-5600
FRIES, JOHN W R
10010 KENNERLY ROAD
ST LOUIS, MO 63120
314-842-5600
FRISKEL, ARTHUR K IM
7500 DEVONSHIRE
ST LOUIS, MO 63119
314-647-0445
FRUMSON, GUY H ORS
12255 DEPAUL DR
BRIDGETON, MO 63044
314-739-7654
FRY, ROBERT D GS
456 N. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-0130
FUJITA, MILTON T CHP
12161 POINT OAK RD
ST LOUIS, MO 63131
314-644-8001
FULEIHAN, FARID M U
621 S NEW BALLAS
ST LOUIS, MO 63141
314-569-6296
FUNSCH, ROBERT E ORS
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-4600
FURLA, AUGUST J FP
57 BROADVIEW DR
ST LOUIS, MO 63105
314-962-4480
GABRAWY, LAILA G OPH
1040 N. MASON RD.
CREVE COEUR, MO 63141
314-469-3601
GAID, MOKHTAR H N
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-362-5950
GAFFNEY, CALDWELL J GS
100 N. EUCLID AVE.
ST LOUIS, MO 63108
GAFFORD, FRANKLIN H IV IM
SUITE 2002 TOWER B
621 S. NEW BALLAS RD.
ST, LOUIS, MO 63141
314-576-1495
GAGLIARDO, JOSEPH P
141 N MERAMEC RM 303
CLAYTON, MO 63105
314-726-5390
GALAKATOS, ANDREW E OBG
224 S WOODS MILL ROAD
SUITE 750
CHESTERFIELD, MO 63017
314-569-0055
GALAN, ALEJANDRO A GS
12255 DE PAUL DR. SUITE 160
BRIDGETON, MO 63044
314-291-3781
GALE, ARTHUR H IM
2420 WOODSON RD
OVERLAND, MO 63114
314-427-2424
GALL, IRA C OBG
621 S. NEW BALLAS
ST LOUIS, MO 63141
314-567-5016
GALLAGHER, EDWARD S PD
1111 WOODSMILL RD.
BALLWIN, MO 63011
314-391-4052
GANDLMAYR, JACOB M FP
1040 N MASON RD
ST LOUIS, MO 63141
314-434-7400

GANSLOSER, WILBERT M P
950 FRANCIS PLACE
CLAYTON, MO 63105
314-727-0076
GANTNER, GEO E JR PTH
1402 S. GRAND BLVD.
ST LOUIS, MO 63104
314-664-9800
GANTZ, JOHN A NM
10 MUIRFIELD LANE
ST LOUIS, MO 63141
314-768-8276
GARCIA, FLORENTINA U PD
2601 NORTH WHITTIER ST
ST LOUIS, MO 63113
314-622-5355
GARCIA-FERRER, EDUARDO A P
777 S. NEW BALLAS
ST LOUIS, MO 63141
314-567-5011
GARFINKEL, BERNARD T IM
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-1902
GARRIGA, FRANCISCO J IM
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-921-4420
GARVIN, PAUL J GS
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
GARVIN, TODD J GS
7023 NORTHMOOR
UNIVERSITY CITY, MO 63105
314-726-1952
GATCHALIAN, FELICITAS Z IM
6744 CLAYTON RD.
ST. LOUIS, MO 63117
314-645-8333
GAVINI, RAJENDRA R GS
6500 CHIPPEWA STREET
SUITE 125
ST LOUIS, MO 63109
314-481-6670
GEARHART, DAVID L OBG
456 N. NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2022
GEARHART, WILBUR H P
3009 N. BALLAS RD.
SUITE 110
ST LOUIS, MO 63131
314-567-5000
GEDNEY, WM B IM
806 MERAMEC STATION RD
VALLEY PARK, MO 63088
314-825-2423
GEISE, AUGUST W NS
SUITE 610 224 S. WOODS MILL
ST. LUKES W DOCTORS BLD
CHESTERFIELD, MO 63017
314-878-2888
GEISSE, GUILLERMO R
DEPT OF RADIOLOGY
6150 OAKLAND
ST LOUIS, MO 63139
314-645-8505
GELLMAN, ELLIOT F PD
456 N NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8662
GENNAOUI, JAD M DR
10010 KENNERLY
ST. LOUIS, MO 63128
314-042-3560
GENTSCH, KENNETH W CD
ST, LOUIS MEDICAL CLINIC
3009 N. BALLAS RD.
ST LOUIS, MO 63131
GEORGE, PHILIP G ORS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-721-7325
GERMUTH, FREDERICK G PTH
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6000
GEROWIN, LANCE GS
9400 W MILTON
ST LOUIS, MO 63114
314-427-4616
GERST, ALOYSIUS C PD
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-837-2008
GERST, JAMES PD
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
GHOSH, NELLIE CD
950 FRANCIS PLACE
ST. LOUIS, MO 63105
314-725-2383
GIBSON, PAUL H IM
7400 NORTHMOOR
CLAYTON, MO 63105
314-725-3703

GIESELMAN, RALPH V IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-078-6260

GILDEN, JEROME J ORS
456 N. NEW BALLAS RD.
SUITE 369
ST LOUIS, MO 63141
314-569-1830

GILLESPIE, WILLIAM J TS
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-1010

GILPIN, DORIS C CHP
7452 AMHERST AVE
ST LOUIS, MO 63130
314-993-2418

GILULA, LOUIS A DR
250 DIELMAN RD
ST LOUIS, MO 63124
314-362-2916

GIMPLESON, RICHARD J OBG
14377 WOODLAKE DR. SUITE 112
CHESTERFIELD, MO 63017
314-870-1866

GINSBURG, JORDAN H ORS
456 N NEW BALLAS ROAD
SUITE 369
ST LOUIS, MO 63141
314-569-1830

GINTHER, JAMES W JR IM
9616 LACKLAND
OVERLAND, MO 63114
314-427-1855

GLADNEY, JOHN H OTO
100 N EUCLID AVE-STE 70
ST LOUIS, MO 63108
314-361-0300

GLASSMAN, A. DANIEL IM
950 FRANCIS PLACE
ST. LOUIS, MO 63105
726-651-0000

GLAZER, HARVEY S DR
829 WESTWOOD
ST. LOUIS, MO 63105
314-721-2852

GLINES, MICHAEL H PD
12 MERAMEC HGTS SHOPPING CTR
ARNOLD, MO 63010
314-296-4466

GLOGOVAC, S. VIC ORS
SUITE #360
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-7181

GNADE, ALBERT J GS
2066 CANAKIN CT
ST LOUIS, MO 63146

GODAR, SHARON A FP
14330 BRAMBLEWOOD CT.
CHESTERFIELD, MO 63017
314-771-9196

GOEBEL, JOAN M AN
5128 JAMIESON
ST LOUIS, MO 63119

GOELL, ROBT S OBG
SUITE #16306
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-362-7831

GOLD, JONATHAN A NS
12255 DEPAUL DRIVE
SUITE 030
BRIDGETON, MO 63044
314-291 6556

GOLDENBERG, JOSEPH K PD
77 WESTPORT PLAZA SUITE 364
CREVE COEUR, MO 63146
314-576-6803

GOLDFARB, ALVIN GS
514 COEUR DE ROYALE DR
#405
ST LOUIS, MO 63141
314-569-0130

GOLDGABER, ALBERTO IM
8631 DELMAR
SUITE 4 LOWER LEVEL
ST LOUIS, MO 63124
314-991-5717

GOLDMAN, ARNOLD M IM
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314 567-1902

GOLDMAN, GORDON M OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-870-7333

GOLDMAN, HYMAN J D
100 N. EUCLID
ST LOUIS, MO 63108
314-361-1330

GOLDMAN, MELVIN L IM
0631 DELMAR
ST LOUIS, MO 63124
314-993-2400

GOLDRING, DAVID PDC
500 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-6000

GOLDRING, SIDNEY NS
660 S EUCLID
ST LOUIS, MO 63110
314-362-3571

GOLDSTEIN, BENJAMIN IM
2428 WOODSON RD
ST LOUIS, MO 63114
314-427-2424

GOLDSTEIN, MARCY A PS
950 FRANCIS PLACE
CLAYTON, MO 63105
314-725-9105

GOLTSCHMAN, JOHN P OPH
900 N HWY 67 LINDBERG
FLORISSANT, MO 63031
314-838-0300

GOMEZ, CESAR A GS
3009 NORTH BALLAS RD.
SUITE 114
ST LOUIS, MO 63131
314-569-2333

GONZALEZ, ALICIA D P
2821 N BALLAS RD.
ST. LOUIS, MO 63131
314-432-7375

GOODMAN, NATHANIEL FP
#9 SCARSDALE LANE
ST LOUIS, MO 63117

GORAN, DANIEL D D
915 OLIVE
ST. LOUIS, MO 63101
314-241-3221

GORAN, DAVID A IM
7171 DELMAR BLVD.
UNIVERSITY CITY, MO 63130
314-863-0033

GORDON, JAMES M OPH
11155 DUNN RD
ST LOUIS, MO 63136
314-355-7300

GORLA, WAYNE O IM
27 HARNEYWOLD
ST LOUIS, MO 63136
314-355-2300

GORMAN, JOHN C IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-7220

GOULD, DANIEL B AN
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-072-8221

GOULD, RONALD J GE
1035 BELLEVUE AVE.
RICHMOND HTS., MO 63017
314-645-1344

GOWDA, SIDDHESH CD
5535 DELMAR
ST. LOUIS, MO 63112
314-361-0330

GRADY, RONALD K IM
224 S. WOODS MILL RD. #370
CHESTERFIELD, MO 63017
314-870-2467

GRAFF, RALPH J GS
P O BOX 14109
ST LOUIS, MO 63177
314 454 7102

GRAGNANI, JOHN A PM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-434-6776

GRAND, M. GILBERT OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP. PLAZA
ST. LOUIS, MO 63110
314-569-0404

GRANETO, JOS A FP
5521 S BROADWAY
ST LOUIS, MO 63111
314-353-1911

GRANT, JOHN M IM
GRANT MEDICAL CLINIC
114 N. TAYLOR AVE.
ST LOUIS, MO 63100
314-534-8600

GRANT, NEVILLE IM
GRANT MEDICAL CLINIC
114 N. TAYLOR AVE.
ST LOUIS, MO 63108
314-534-8600

GRAUL, WALTER P ORS
4944 LINDELL BLVD.
ST. LOUIS, MO 63108

GRAVISS, EDWARD R DR
1465 S. GRAND
ST. LOUIS, MO 63104
314-577-5600

GRAY, GARY J IM
911 S BRENTWOOD
ST LOUIS, MO 63105
314-727-5336

GREANEY, JOHN F GP
6829-A VIRGINIA AVE.
ST. LOUIS. MO 63111

GREEN, MORTON R OPH
111 W. LINCOLN
BELLEVILLE, IL 62221
618-234-1774

GREEN, WM R FP
7200 MANCHESTER
ST LOUIS, MO 63143
314-645-7744

GREENMAN, MARSHALL B PD
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-8752

GREGORY, JOHN G U
1325 S GRAND
ST LOUIS, MO 63104
314-771-7600

GRESICK, ROBT J PTH
11 COACH-N-FOUR LANE
ST LOUIS, MO 63131

GRIGGS, JAMES Y GS
1034 S. BRENTWOOD
SUITE #776
ST LOUIS, MO 63117
314-863-6006

GRIMES, JAMES B ORS
2828 LACLEDE STA RD.
ST. LOUIS, MO 63143
314-644-4899

GRUBB, ROBT L NS
BARNES HOSP NEUROSURGERY
4901 BARNES HOSP PLZ
ST LOUIS, MO 63110
314-362-3567

GRUNDMANN, WM H ORS
12028 ROSEVALLEY LANE
ST LOUIS, MO 63138
314-721-1700

GULICK, C. RICHARD OBG
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-725-9300

GULICK, CHARLES R OBG
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-725-9300

GUNN, WALTER T FP
4617 DAHILA AVE
ST LOUIS, MO 63116
314-752-2120

GUPTA, JITENDRA K IM
14377 WOODLAKE #101
CHESTERFIELD, MO 63017
314-434-7475

GUPTA, NARAYAN C FP
6331 DEVONSHIRE
ST LOUIS, MO 63109
314-771-7388

GURSAHANI, MOHAN U
1034 S BRENTWOOD BLVD
STE 854
ST LOUIS, MO 63117
314-863-3000

GUTIERREZ-MEDINA, ERNESTO IM
525 ST. FRANCOIS
FLORISSANT, MO 63031
837-372-0000

GUTWEIN, MICHAEL R IM
3009 NORTH BALLAS RD.
SUITE 100
ST. LOUIS, MO 63131
314-432-1111

GUY, CYNTHIA S AN
11626 FRONTIER DR.
ST. LOUIS, MO 63146
314-569-1653

GUZE, SAML B P
4940 AUDUBON AVE
ST LOUIS, MO 63110
314-362-7005

HABERT, EDWARD R R
10010 KENNERLY
ST LOUIS, MO 63128
314-842-5600

HADDOCK, JAMES N P
911 S. BRENTWOOD BLVD.
ROOM 310
ST LOUIS, MO 63105
314-063-9001

HAGAN, DANL J R
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6031

HAGEBUSCH, OMER E PTH
15201 OLIVE ST RD APT 3
CHESTERFIELD, MO 63017

HAGEMANN, PAUL O IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-078-7220

HAGEN, DUANE Q P
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6295

HAGEN, GARRETT A IM
1035 BELLEVUE
RICHMOND HGHTS, MO 63117
314-645-3400

HAHN, YORAM OBG
1035 BELLEVUE AVENUE
SUITE 310
ST. LOUIS, MO 63117
314-644-3288

HAINLINE, SARAH W OBG
4104 UPTON CT
ST. LOUIS. MO 63116
314-832-3930
HAKIM, ASHFAQ H IM
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-839-4770
HALE, THOMAS H IM
12126 BENTBROOK
ST. LOUIS, MO 63122
HALFORD, RICHARD PS
1040 N MASON RD STE 205
ST LOUIS, MO 63141
314-878-4530
HALL, LEE A OBG
3716 HULEN PARK
FORT WORTH, TX 76109
817-336-9371
HALL, PRESTON C FP
39 WOODCREST DR
ST LOUIS, MO 63124
HALL, WM K D
P O BOX 661
ST CHARLES, MO 63301
314-946-7608
HALLAZGO. SANTIAGO Y FP
11140 MANCHESTER RD
ST LOUIS, MO 63122
314-821-1414
HALLEY, R H U
11155 DUNN RD STE 214
ST LOUIS, MO 63136
314-355-5544
HALLINGER, EARL S D
2209 KIPP COURT
ST. LOUIS CO., MO 63136
HALLORAN, MARK J IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-3456
HALVERSON, JOHN D GS
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-362-7411
HAMEL, TIMOTHY J FP
RT 3 BOX 28A
WEST CHURCH RD
BRODHEAD, WI 53520
HAMILTON, CALDWELL K FD
11745 OLIVE ST RD
CREVE COEUR, MO 63141
314-562-1090
HAMILTON, EUGENE G OBG
BELLEVUE BLDG
1035 BELLEVUE
ST LOUIS, MO 63117
314-781-3838
HAMILTON, JOHN A OBG
1035 BELLEVUE AVENUE
ST LOUIS, MO 63117
314-781-3838
HAMILTON, WILLIAM P CD
615 S NEW BALLAS ROAD
ST LOUIS, MO 63141
314-569-6168
HAMMERMAN, ALBERT M DR
14240 FINGERLAKE DR.
CHESTERFIELD, MO 63017
314-454-7230
HAMMERMAN, HARLEY J DR
211 HEWLETT CT.
CREVE COEUR, MO 63141
314-441-6730
HAMMERMAN. MARC R IM
660 S. EUCLID AVE.
ST. LOUIS, MO 63110
314-362-7024
HAMMOND, D. WADE ORS
533 COUCH AVE.
SUITE 220
ST LOUIS, MO 63122
314-966-0111
HAMMOND. DAVID T CD
ST. LOUIS MEDICAL CLINIC
3009 N. BALLS RD.
ST LOUIS, MO 63131
314-432-1111
HAMPTON, STANLEY F A
93 LAKE FOREST
ST LOUIS, MO 63117
314-781-6808
HANAWAY, JOS N
ROOM 310 100 N. EUCLID
ST LOUIS, MO 63108
314-454-1962
HANDOYO, FRANS S IM
4075 SO. GRAND
ST. LOUIS, MO 63118
314-752-7370
HANES, LILY A TR
C/O KEVIN HANES
353 CLARK AVE.
ST. LOUIS, MO 63119
HANISH, SIDNEY J OPH
950 FRANCIS PLACE
SUITE 302
CLAYTON, MO 63105
721-679-0000

HANLEY, THOMAS P OBG
1035 BELLEVUE
ST. LOUIS, MO 63117
314-644-6262
HANNA, FAYEZ A FP
3394 MC KELVEY
BRIDGETON, MO 63044
314-291-6900
*HANSON, LESLEY A IM
7239 LYNDOVER
MAPLEWOOD, MO 63143
314-644-2716
HANSON, PAULL R OM
15948 SILENT CREEK CT.
CHESTERFIELD, MO 63017
314-536-1302
HANTMAN, STEPHEN L IM
MED OFF BLDG SUITE 312-E
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-8111
HANTZ, OSCAR OTO
1265 GRAHAM RD.
FLORISSANT, MO 63031
314-878-9009
HARDIN. WM B N
3009 NO BALLAS RD.
SUITE 209
ST LOUIS, MO 63131
314-567-3663
HARDY, DAVID A U
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-725-6551
HARDY, GUERDAN OTO
35 N CENTRAL AVE
CLAYTON, MO 63105
314-725-7221
HARDY, PATRICK J IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-838-5700
HARELL, ALEX ORS
1040 MASON RD. NO. SUITE 108
ST LOUIS, MO 63141
314-870-1010
HARFORD, CARL G IM
WASH U SCH MED-INT MED-
660 S. EUCLID AVE.
ST LOUIS, MO 63110
314-362-6899
HARKINS, WM B OTO
275 UNION BLVD.
APT. 920
ST LOUIS, MO 63108
HARPER, FLEMING B GS
4909 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-362-7888
HARRISON, LEE B IM
44 RIDGEMOOR DR
CLAYTON, MO 63105
HARRISON, RICHARD L P
9705 WATSON RD
CRESTWOOD, MO 63126
314-821-2737
HARSHMAN, DAVID M IM
1031 BELLEVUE AVE
ST. LOUIS, MO 63117
314-644-3250
HART, WILLIAM G JR PS
621 S. NEW BALLAS RD.
SUITE 1003
ST. LOUIS, MO 63141
314-567-3737
HART, WILLIAM M JR OPH
660 SOUTH EUCLID
ST LOUIS, MO 63110
314-362-7180
HARTIN, RICHARD B AN
816 STREIFF LANE
BALLWIN, MO 63011
314-227-3893
HARTMAN, PAUL T P
RR #1, BOX 230
BIGGSVILLE, IL 61418
HARTMAN, RICHARD A OBG
911 S. BRENTWOOD BLVD.
ST. LOUIS, MO 63105
314-721-8852
HARTNETT, THOS D P
11 S MERAMEC
ST LOUIS, MO 63105
314-727-7700
HARTSTEIN, JACK OPH
224 S. WOODSMILL RD. #700
CHESTERFIELD, MO 63017
314-469-1122
HARWELL, JAMES L PD
35 N CENTRAL
ST LOUIS, MO 63105
314-721-2262
HASENMUELLER, JAMES J GS
10004 KENNERLY RD
SUITE 110
ST LOUIS, MO 63128
314-842-1890

HASIK, KARL J OBG
2745 W CLAY SUITE K
ST. CHARLES, MO 63301
314-946-1331
HATFALVI, BELA I AN
15 MIDDLESEX DR
ST LOUIS, MO 63144
HATLELID, J. MICHAEL N
SUITE 310 100-N EUCLID
ST. LOUIS, MO 63108
314-454-1962
HAWATMEH, IBRAHIM S U
3720 HAMPTON AVE.
ST LOUIS, MO 63109
314-353-9000
HAWK, BRAY O GS
16 HAMPTON VILLAGE
ST LOUIS, MO 63109
314-481-3833
HAWK, THOMAS M ORS
6500 CHIPPEWA SUITE 327
ST. LOUIS, MO 63109
314-352-4400
HAWKER, WM D OBG
14547 TRAMORE
CHESTERFIELD, MO 63017
HAWKINS, GEO L NS
504 OAKWOOD
ST LOUIS, MO 63119
HAYEK, WESLEY E GS
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-830-5600
HAZAN, JOSEPH OBG
2428 WOODSON
ST LOUIS, MO 63114
314-427-2424
HEADRICK, JOHN A IM
11133 DUNN RD
ST LOUIS, MO 63136
314-355-2300
HEGDE, KORGI V IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
HEINS, JAMES N IM
ST. LOUIS MEDICAL CLINIC
3009 NO. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111
HELBING. EDWARD J OS
250 ALAMEDA #105
SANTA FE, NM 87501
HELLER. RANDALL L JR OBG
1034 BRENTWOOD SUITE 946
ST. LOUIS. MO 63117
314-725-9300
HELLWEG, RAYMOND W PD
3220 PARKER RD
FLORISSANT, MO 63033
314-921 4500
HELMAN, LEE J IM
9709 HOLMHURST RD.
BETHESDA, MD 20017
314-872-3622
HENDIN, AARON IM
5203 CHIPPEWA
SUITE 303
ST LOUIS, MO 63109
314-481-3434
HENRY, CATHERINE G CD
3920 DEER RD.
WISCONSIN RAP., WI 54494
314-454-4860
HENSCHEL, EUGENE V IM
4709 HAMPTON AVE.
ST LOUIS, MO 63109
314-832-3303
HENSELMEIER, DALE M FP
12255 DEPAUL DRIVE
SUITE 600
BRIDGETON, MO 63044
314-291-1074
HER, KYU S PD
624 HAVERFORD RD
ST LOUIS, MO 63124
314-644-8408
HERBERG, MICHAEL S IM
1823 HICKORY ST.
ST. LOUIS, MO 63104
314-569-6000
HERBERS, MARK F PD
5913 FYLER APT 3
ST. LOUIS, MO 63139
HERJANIC, MARIJAN P
1420 GRATTAN
ST LOUIS, MO 63104
314-241-7600
HERMAN, MORRIS GS
3555 SUNSET OFFICE DR
ST LOUIS, MO 63127
314-821-3900
HERNANDEZ, SALVADOR R ORS
6500 CHIPPEWA AVE
ST LOUIS, MO 63109
314-832-3210
HERRIFORD, MERLE B U
2715 N. UNION
ST. LOUIS, MO 63113
314-261-3300

HERRMANN, VIRGINIA M GS
1325 S GRAND BLVD.
ST. LOUIS, MO 63104
771-760-0000
HERSHEY, FALLS B GS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666
HERTEL, RONALD C ORS
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-721-7325
HERZOG, GODOFREDU M OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-878-7333
HESKER, ALBERT E R
ST. LUKES HOSP. RAD DEPT.
232 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-434-1500
HESS, JOHN P IM
1031 BELLEVUE STE. 360
ST. LOUIS, MO 63117
314-647-0233
HEUSLER, ANTON F P
12255 DEPAUL DRIVE
SUITE 330
BRIDGETON, MO 63044
314-291-7449
HEUTEL, LEE B FP
7200 MANCHESTER
ST LOUIS, MO 63143
314-645-7744
HIATT, BARRY A P
4524 FOREST PARK AVE.
SUITE 102
ST LOUIS, MO 63108
314-367-8718
HIATT, H C IM
7937 BIG BEND BLVD.
ST LOUIS. MO 63119
HICKEY, JAMES L OBG
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5515
HICKS, ROBT S P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2266
HIGGINS, PHILIP C OBG
1 CLAYCHESTER
ST LOUIS, MO 63131
314-432-8505
HILBERT. PAUL H FP
2905 CHEROKEE ST
ST LOUIS, MO 63118
314-771-2428
HILDRETH, HOWARD R OPH
15022 CLAYMOOR CT
CHESTERFIELD, MO 63017
HILGARD, JAMES H IM
210 S. HOME AVE.
OAK PARK, IL 60302
HILL, M. ROBERT IM
6150 OAKLAND AVE.
ST. LOUIS, MO 63139
314-645-8510
HILL, THOMAS E R
6115 HERBERT HEIGHTS
GODFREY, IL 62035
HILL, XACADENE A FP
4067 DR MARTIN LUTHER KING
ST LOUIS, MO 63113
314-535-6859
HINRICHS, JAMES H IM
1351 THORNWICK
BALLWIN, MO 63011
314-391-7010
HINTZE, PAUL F IM
224 S. WOODS MILL RD.
CHESTERFIELD, MU 63017
314-469-6224
HIRONIMUS, JOHN E D
6651 CHIPPEWA ST STE 20
ST LOUIS, MO 63109
314-645-5320
HIRSCH, JOHN D GS
216 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7185
HIRSHBERG, GARY E AN
660 SOUTH EUCLID AVE.
ST. LOUIS, MO 63110
314-362-6973
HO, JUDITH E PD
615 SOUTH NEW BALLAS RD.
DEPT. OF NUCLEAR MED.
ST. LOUIS, MO 63141
314-391-7654
HOBBS. JOHN E OBG
25 WOODENCREST DR
ST LOUIS, MO 63124
HODEL, KENNETH A OBG
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
569-688-0000

HOEHN, JOHN P III GS
12255 DE PAUL DR
BRIDGETON, MO 63044
314-569-3322
HOELZER, DAVID R IM
660 S. EUCLID AVE. BOX 8127
ST. LOUIS, MO 63110
314-454-3387
HOELZER, KAREN L IM
3502 PESTALOZZI
ST. LOUIS, MO 63118
314-771-7600
HOFFMAN, MARK J DR
7820 CORNELL ST.
ST. LOUIS, MO 63130
314-725-7754
HOFFMAN, ROBERT J PD
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-837-2808
HOFFMAN, WILLIAM F N
12255 DE PAUL DR.
SUITE 830
BRIDGETON, MO 63044
314-291-6556
HOFFMANN, A. DAVID IM
4920 MCCAUSLAND
ST LOUIS, MO 63109
HOFFMANN, RONALD E ORS
MEDICAL WEST BUILDING
950 FRANCIS PL, STE. 14
CLAYTON, MO 63105
314-862-2012
HOFFMANN, SANDRA S IM
7934 NORTH LINDBERGH
HAZELWOOD, MO 63042
314-921-4949
HOFSTATTER, LEOPOLD N
768 GLEN VISTA DR
ST LOUIS, MO 63122
314-644-8107
HOGAN, CORNELIUS E IM
3654 S GRAND BLVD
ST LOUIS, MO 63118
314-773-0898
HOGAN, JOHN R IM
1303 WEBSTER PATH DR.
ST LOUIS, MO 63119
314-644-6161
HOGAN, PATRICK C OBG
10004 KENNERLY RD
ST LOUIS, MO 63128
314-842-3445
HOGAN, PATRICK A N
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-725-1522
HOLBROOK, CHAS K OM
11655 W FLORISSANT
FLORISSANT, MO 63033
314-831-5200
HOLDER, BARRETT K ORS
3009 NORTH BALLAS RD.
P.O. BOX 31097
ST LOUIS, MO 63131
314-569-0612
HOLEMON, R. EUGENE P
3009 N. BALLAS RD.
SUITE #110
ST LOUIS, MO 63131
314-567-5000
HOLLO, VENCEL W GS
911 SOUTH BRENTWOOD
ST LOUIS, MO 63105
314-725-4747
HOLLOCHER, RICHARD J ORS
621 S. NEW BALLAS RD.
CREVE COEUR, MO 63141
314-567-5850
HOLLOMAN, WALTER G DR
11155 DUNN RD.
SUITE 203
ST. LOUIS, MO 63136
314-355-5032
HOLLOWAY, ROBERT B AN
915 N. GRAND BLVD.
ST. LOUIS, MO 63125
HOLMES, NANCY E PD
35 N. CENTRAL
CLAYTON, MO 63105
314-721-2262
HOLSCHER, EDWARD C ORS
234 W JACKSON RD
WEBSTER GROVES, MO 63119
314-961-9212
HOLT, EARL P JR ORS
5505 DELMAR BLVD
ST LOUIS, MO 63112
314-367-8338
HOLT, WM E P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-3077
HOLTMANN, BARBEL PS
4949 BARNES HOSPITAL PLAZA
SUITE 17424
ST LOUIS, MO 63110
314-454-3455

HOLTZ, ALAN S GS
12166 BIG BEND BLVD.
KIRKWOOD, MO 63122
314-822-7200
HOLTZ, SUMNER DR
5535 DELMAR
ST LOUIS, MO 63112
314-361-1212
HOOKERMAN, BRUCE J D
12255 DEPAUL DR
BRIDGETON, MO 63044
314-291-2588
HOOVER, BERNARD L IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
HORAN, DAVID W EM
151 N. MICHIGAN AVE.
CHICAGO, IL 60601
HORENSTEIN, SIMON N
456 N NEW BALLAS RD.
ST LOUIS, MO 63141
314-567-3970
HORNER, JOHN L IM
615 GARLAND PL
ST LOUIS, MO 63122
HORWITZ, IRWIN B ORS
900 S. HANLEY RD.
ST LOUIS, MO 63105
HOUSTON, MARK T FP
618 PAMELA LANE
KIRKWOOD, MO 63122
314-569-6010
HOWE, ALBERT L IM
300 S GRAND
ST LOUIS, MO 63103
314-658-5641
HOWE, LOUIS F FP
1136 RIDGELYNN
ST LOUIS, MO 63124
HUDERT, JOHN W IM
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-7730
HUCK, RICHARD F JR IM
2821 N BALLAS
ST LOUIS, MO 63131
314-872-9310
HUDGENS, RICHARD W P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2266
HUFFAKER. WILLIAM H PS
11155 DUNN RD.
SUITE 202E
ST. LOUIS, MO 63136
314-355-5333
HUGGINS, ALBERT M IM
6651 CHIPPEWA ST
ST LOUIS, MO 63109
314-644-3997
HUGHES, ROBT G OM
11745 OLIVE BLVD
ST LOUIS, MU 63141
314-567-5770
HULBERT, BERNARD IM
8112 DELMAR BLVD
ST LOUIS, MO 63130
314-725-7400
HUMMEL, ANTON J OPH
5203 CHIPPEWA ST
ST LOUIS, MO 63109
314-352-1881
HUMMEL, WM C R
1924 MUIR WOODS
ST LOUIS, MO 63131
314-567-1656

HUNLETH, FRANK E OBG
12615 OLD TESSON RD.
ST LOUIS, MO 63128
314-842-7910
HURD, JAMES R GS
417 LONG BOW TRAIL
ST. CHARLES, MO 63301
314-577-5700
HURLEY, JOSEPH J GS
615 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-6666
HUSSEIN, DILBER AN
551 NORDHOFF DR.
HACKENSACK, NJ 07605
HUTCHINSON, JAMES H IM
2805 N. GEYER RD.
ST LOUIS, MO 63131
HUTCHINSON, WILLIAM B DR
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-5284
HYMAN, ANNA P
818 OLIVE
%MILLAR/SCHAEF/HOFFMAN
ST LOUIS, MO 63101
ICHTERTZ, GREG L IM
WYNBROOK WEST APT. 0-9
DUTCH NECK RD.
HIGHTSTOWN, NJ 08520
609-443-5612

IKEDA, SHIGEMASA AN
1325 S GRAND
ST LOUIS, MO 63104
314-771-7600
INMAN, MAX M IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100
IP, AIDAN W PD
5398 PERSHING #3E
ST. LOUIS, MO 63112
314-432-1854
IRVIN, WM M P
1035 BELLEVUE STE 202
ST LOUIS, MO 63117
314-644-6200
ISHIDA, YASUO OBG
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-6100
ISLAM, MOHAMMED GS
1000 HILLSBORO RD.
HIGH RIDGE, MO 63049
314-344-6000
ISSERMAN, MICHAEL J OPH
456 N. NEW BALLAS RD.
ST LOUIS, MO 63141
314-432-1134
ITTNER, GEO W IM
6306 PERSHING AVE.
ST LOUIS, MO 63130
IWANE, AKIRA AN
#5 CRICKET AVE.
ST LOUIS, MO 63144
314-454-2858
IZMIRLIAN, GRANT FP
1040 N MASON RD
ST LOUIS, MO 63141
314-434-7444
JABLONSKI, RAYMOND C R
9088 FERNALD
ST. LOUIS, MO 63123
JACKSON, DARWIN C OBG
100 N. EUCLID AVE.
ST. LOUIS, MO 63108
314-367-2200
JACOB, KARL A NS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314 567-9955
JACOBS, CHAS C OTO
43 MUIRFIELD LN
ST LOUIS, MO 63141
314 521-1414
JACOBS, FREDERICK A PD
10929 ABBOTT AVE
SUN CITY, AZ 05351
JACOBS, RICHARD D IM
1315 LOMBEZ DR.
BALLWIN, MO 63011
314-094 8005
JAIN, SAVITRI G IM
533 COUCH AVE.
ST LOUIS, MO 63122
314-821-9140
JAIN, SUMER C AN
12122 CARBERRY PL
ST. LOUIS, MO 63131
314-344-7047
JANNEY, JAMES G JR IM
950 FRANCIS PL
CLAYTON, MO 63105
314-726-6512
JARVIS, CATHY C IM
15951 THROWBRIDGE RD
CHESTERFIELD, MO 63017
314-391 5652
JATALA, IJAZ A P
819 LOCUST
ST LOUIS, MO 63101
314-621-4300
JAUDON, JOS C PD
55 S GORE
ST LOUIS, MO 63119
JAVIDAN, RON IM
14220 TULLYTOWN
CHESTERFIELD, MO 63017
314-434-1399
JEAN, J T IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314 361-5400
JENNY, ARTHUR B NS
344 JEFFERSON RD
ST LOUIS, MO 63119
314-362-3580
JENSEN, JOSHUA E GS
11155 DUNN RD STE 208
ST LOUIS, MO 63136
314-741-3400
JENSEN, JOSHUA E II GS
CHRISTIAN HOSPITAL NO
11155 DUNN RD
ST LOUIS, MO 63136
314 741-3400
JICK, SIDNEY CD
10287 CLAYTON RD
ST LOUIS, MO 63124
314-997-3212
JOFFE, WM S OPH
211 N MERAMEC AVE
CLAYTON, MO 63105
314-726-0025
JOHANS, THOMAS G AN
621 S. NEW BALLAS
ST. LOUIS, MO 63141
314-072-8221
JOHNSON, CHAS J PS
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6644
JOHNSON, COURTNEY R PD
5083 WESTMINSTER PL
ST. LOUIS, MO 63100
314-361-5346
JOHNSON, FRANK E GS
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
JOHNSON, MICHAEL K OBG
4949 BARNES HOSPITAL
SUITE #16310
ST. LOUIS, MO 63110
314-361-0313
JOHNSON, MITCHELL D GS
15205 OLD HALLS FERRY
FLORISSANT, MO 63034
314-741-5779
JOHNSON, RANDY G IM
725 SWARTHMORE
ST. LOUIS, MO 63130
314-725-4667
JOHNSON, TOM A FP
615 SO NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6010
JOHNSTON, GLEN P OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-367-1181
JOHNSTONE, JOHN T IM
206 W ARGONNE
KIRKWOOD, MO 63122
314-966-3400
JOIST, JOHANN H IM
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-771-7600
JONES, DOROTHY J PD
500 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314 362-3494
JONES, GEORGIA A P
6245 ODELL
ST. LOUIS, MO 63139
JONES, GREY OBG
P. O. BOX 222
BLAWENBURG, NJ 00504
JONES, JAMES H OPH
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-647-4034
JONES, OTEY S FP
2010 LONGFELLOW
ST LOUIS, MO 63104
JONES, RICHARD A IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-4174
JONES, SCOTT D P
6245 ODELL
ST. LOUIS, MO 63139
314-771-7600
JORDAN, WALTER R FP
18012 DESERT GLEN DR.
SUN CITY WEST, AZ 85372
JOSEPH, HAROLD J IM
828 CELLA RD
ST LOUIS, MO 63124
314-072-8740
JOSEPH, MARY G IM
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-352-1422
JOSLYN, HAROLD L GE
1930 TILE FACTORY RD.
MT VERNON, IN 47620
JOST, CHAS A FP
2 BELLERIVE ACRES
ST. LOUIS, MO 63121
JOTTE, RICHARD F IM
10300 ST. CHARLES ROCK RD.
ST. ANN, MO 63074
314-427-2022
JOTTE, RICHARD F FP
10300 ST CHARLES ROCK RD
ST ANN, MO 63074
314-427-2022
JUDD, DONALD R TS
6125 CLAYTON AVE.
ST LOUIS, MO 63139
314-649-5525
JUERGENS, WM G IM
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-0666
JULIEN, RENE GS
POST OFFICE BOX 852
EAST ST LOUIS, IL 62203
610-271-4090
KABIR, MOHAMMED A P
10000 HIGHWAY 366
ST LOUIS, MO 63126
314-821-1640
KAHN, LAWRENCE I PD
4566 SCOTT AVE
ST LOUIS, MO 63110
314-658-5212
KAIRUZ, BARTOLOME C FP
10004 KENNERLY RD
ST LOUIS, MO 63128
314-843-4444
KAISER, GEO C GS
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-577-6125
KAMAKAS, NICHOLAS C PD
1245 GRAHAM RD
FLORISSANT, MO 63031
314-838-3800
KAMENETZKY, STEPHEN A OPH
4910 FOREST PARK
SUITE 300
ST LOUIS, MO 63108
314-367-0074
KAMINSKI, DONALD L GS
3660 VISTA
ST LOUIS, MO 63110
314-577-6125
KANG, JUAN PTH
ALLEN MEDICAL LAB
2204 WELSCH INDUSTRIAL
ST LOUIS, MO 63141
314-355-2300
KANNEGIESSER, HARTMUT IM
300 S. GRAND
ST. LOUIS, MO 63103
314-658-5640
KANTOR, OWEN IM
4949 BARNES HOSPITAL PLAZA
SUITE #16422
ST LOUIS, MO 63110
314-367-9595
KAO, MING-SHIAN OBG
4911 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-362-3181
KAPLAN, ALEX H P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-6243
KAPPESSER, NETAJEAN G FP
55 FAIR OAKS DR
ST LOUIS, MO 63124
314-966-1500
KAPPESSER, ROLAND C AN
55 FAIR OAKS
ST LOUIS, MO 63124
KARDESCH, MILTON IM
9293 WATSON RD.
ST LOUIS, MO 63126
314-962-9870
KARL, MICHAEL M IM
4652 MARYLAND AVE
ST LOUIS, MO 63108
314-367-3113
KARSH, ROBT S IM
2428 WOODSON RD
ST LOUIS, MO 63114
314-427-2424
KASINADHUNI, UDAYSHANKER AN
1317 PARKVIEW MEADOWS DR.
MANCHESTER, MO 63011
314-771-7600
KASS, MICHAEL A OPH
660 S EUCLID
ST LOUIS, MO 63110
314-362-7008
KATSANTONIS, GEORGE OTO
6651 CHIPPEWA
ST LOUIS, MO 63109
314-647-5854
KAUFMAN, ROBT L IM
456 N NEW BALLAS RD
SUITE 299
ST LOUIS, MO 63141
314-569-1090
KAUP, CHANDRA S IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-038-5700
KAYES, JACK OPH
211 N MERAMEC
ST LOUIS, MO 63105
314 863-4200
KAZA, RAMARAO U
6500 CHIPPEWA
#1 SUITE 116
ST LOUIS, MO 63109
314-832-7227
KEATING, JAMES P PD
ST LOUIS CHILDRENS HOSP
P O BOX 14871
ST LOUIS, MO 63178
314-454-6006

KEFFLER, KARL L FP
7306 WISE AVE
ST LOUIS, MO 63117
314-781-3737

KEITHLY, DENNIS J EM
121 HIDDEN CREEK DR.
ELLISVILLE, MO 63011
314-569-6090

KELLER, MAURICE J PD
9049 CLAYTON RD.
ST LOUIS, MO 63117

KELLER, STEPHEN M R
615 S. NEW BALLAS
ST. LOUIS, MO 63141
314-569-6000

KELLETT, JOHN G FP
2716 TELEGRAPH RD.
ST. LOUIS, MO 63125
314-892-3500

KELLY, JOHN J IM
ST. LOUIS MEDICAL CLINIC
3009 NO. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111

KELLY, R E OM
665 S. SKINKER
ST LOUIS, MO 63105
314-621-4300

KELLY, WILLIAM A P
4524 FOREST PARK AVE.
ST LOUIS, MO 63108

KELTNER, RAYMOND M JR GS
1325 S GRAND
ST LOUIS, MO 63104
314-771-7600

KENDIG, JOHN H NS
224 S. WOODS MILL RD.
SUITE 610
CHESTERFIELD, MO 63017
314-872-7113

KENDIS, JOS D IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5011

KENNEDY, ROBERT M PD
3210 MAGNOLIA AVE.
ST. LOUIS, MO 63118
314-664-7017

KENNEY, JOHN D ORS
12615 OLD TESSON ROAD
ST LOUIS, MO 63128
314-849-0311

KENNINGTON, L J FP
14382 WOODLANE DR.
CHESTERFIELD, MO 63017
314-434-3333

KESSEL, JAMES W OBG
2 JACKLYNN CT
ST LOUIS, MO 63132
314-432-8388

KESSLER, SHELDON PD
12255 DEPAUL DR. SUITE 490
DEPAUL PROF BLDG.
BRIDGETON, MO 63044
314-739-5333

KEYES, E L GS
900 S HANLEY RD
ST LOUIS, MO 63105

KHAN, ABDUL G PD
4150 JEFFCO BLVD.
ARNOLD, MO 63010
314-464-1000

KHAN, ABDUL R P
9730 E WATSON RD
ST LOUIS, MO 63126
314-843-9711

KHAN, ALTAF A GE
12166 BIG BEND BLVD
ST LOUIS, MO 63122
314-966-6790

KIELMOVITCH, IZAK H OTO
1304 S. NEGLEY AVE.
PITTSBURG, PA 15217
412-422-1261

KIENZLE, EDWARD FP
P. O. BOX 356
BONNE TERRE, MO 63628

KILKER, DONALD E FP
7520 NATURAL BRIDGE RD
NORMANDY, MO 63121
314-385-4555

KILO, CHAS IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5529

KILPATRICK, BRIAN N IM
9071 W. SWAN CIRCLE
BRENTWOOD, MO 63144
314-664-9800

KIM, STANLEY W R
777 S NEW BALLAS
ST LOUIS, MO 63141
314-567-4350

KIM, WILLIAM W AN
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7600

KIMELMAN, NATHAN IM
6744 CLAYTON RD
ST LOUIS, MO 63117
314-781-3400

KING, EUSTACE E III FP
111 CHURCH ST
FERGUSON, MO 63135
314-524-7975

KING, FRANCIS C FP
11040 MANCHESTER RD.
ST LOUIS, MO 63122

KING, JAMES P PD
10004 KENNERLY RD.
ST. LOUIS, MO 63128
314-849-5010

KING, JOHN V JR PUD
2850 CLARKSON ROAD
CHESTERFIELD, MO 63017
314-739-5070

KING, JOHN V SR FP
615 S NEW BALLAS RD
ST LOUIS, MO 63131
314-569-6010

KING, M. KENTON IM
660 S EUCLID
ST LOUIS, MO 63110
314-362-6830

KINGSLAND, ROBERT C IM
6150 OAKLAND
ST LOUIS, MO 63139

KINSELLA, EDWARD D GE
1035 BELLEVUE
RICHMOND HTS., MO 63117
314-645-1344

KINSELLA, MARIA S IM
22 CONWAY LANE
ST. LOUIS, MO 63124
314-622-4761

KINSELLA, PETER W IM
1035 BELLEVUE
ST LOUIS, MO 63117

KINSELLA, RALPH A JR IM
6305 WESTMINSTER PL
ST LOUIS, MO 63130
314-622-5000

KIPNIS, DAVID M IM
660 S EUCLID
ST LOUIS, MO 63110
314-362-7020

KISSANE, JOHN M PTH
WASHINGTON U SCH MED
660 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-7447

KISTLER, W. DAVID JR IM
SUITE 113 MED W BLDG
950 FRANCIS PLACE
CLAYTON, MO 63105
314-721-0411

KISTNER, WM F PUD
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3161

KITCHEN, ALICE D P
1221 SOUTH GRAND AVE.
ST. LOUIS, MO 63104
314-771-6400

KIYANCLAR, M. EMIN AN
1505 SPRINGER RD.
ELLISVILLE, MO 63011
314-227-0324

KLEIN, BERT H FP
34 N RIDGEWOOD AVE
ARCADIA, MI 49613

KLEIN, JACOB OBG
777 S. NEW BALLAS RD
ST. LOUIS, MO 63141
314-569-2424

KLEIN, SAUL J U
456 N NEW BALLAS RD STE
ST LOUIS, MO 63141
314-567-6071

KLIEFOTH, JAMES A GS
4237 REAVIS BARRACKS RD.
ST. LOUIS, MO 63125
314-638-0242

KLIPPEL, BERNHARDT W GS
52 FAIR OAKS
ST LOUIS, MO 63124

KLOECKER, RICHARD J GS
12255 DEPAUL SUITE 160
BRIDGETON, MO 63044
314-291-3787

KLOECKER, ROBT P OBG
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-569-3830

KLUTTZ, ALYWIN E FP
3 MORENA CT.
BALLWIN, MO 63011
314-394-0426

KLUZAK, THOMAS R OBG
621 S NEW BALLAS
ST LOUIS, MO 63141
314-569-6880

KNIGHT, FRANKLIN P FS
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-837-1333

KNIGHT, JAMES W GS
7520 NATURAL BRIDGE,
SUITE 102
ST. LOUIS, MO 63121
314-524-5691

KNIGHT, WM A JR GE
1035 BELLEVUE AVE.
ST LOUIS, MO 63117
314-645-3400

KNOCK, HENRY L PD
325 N. KIRKWOOD RD.
KIRKWOOD, MO 63122
314-966-8728

KNOPF, HARRY L OPH
211 N MERAMEC ST
CLAYTON, MO 63105
314-863-4200

KNOWLES, R. RAYMOND P
1034 SOUTH BRENTWOOD BLVD
SUITE 754
ST LOUIS, MO 63117
314-725-0667

KNOWLTON, NORMAN P JR IM
14 OAKLEIGH LN
ST LOUIS, MO 63124
314-361-7660

KODNER, IRA J CRS
216 S. KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7177

KOEHLER, GEO A IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-576-5014

KOENIG, MARVIN I OPH
900 N HWY 67 LINDBERGH
FLORISSANT, MO 63031
314-838-0300

KOERNER, KENNETH A PD
2821 N BALLAS RD
ST LOUIS, MO 63131
314-432-1854

KOLKER, ALLAN E OPH
660 S EUCLID AVE
ST LOUIS, MO 63110
314-362-7088

KOLODNY, ROBT C IM
34 DAN'S HIGHWAY
NEW CANAAN, CT 06840
314-361-2377

KOPELSON, JEFFREY C FP
C/O MED FIRST
919 MANCHESTER
BALLWIN, MO 63011
314-227-8880

KOPEN, DAN F GS
480 PIERCE ST. SUITE 318
KINGSTON, PA 18704
717-826-7680

KOPMAN, ERCUMENT A AN
660 S. EUCLID AVE.
ST LOUIS, MO 63110
314-362-6973

KORENBLAT, PHILLIP E A
10287 CLAYTON RD
ST LOUIS, MO 63124
314-997-3212

KORN, ROBT L PD
456 N NEW BALLAS
ST LOUIS, MO 63141
314-567-6068

KOSURI, LALITHA IM
6500 CHIPPEWA SUITE 124
ST. LOUIS, MO 63109
314-352-1422

KOTNER, LAWRENCE M IM
1040 N. MASON RD.
ST LOUIS, MO 63141
314-576-7196

KOTNER, LAWRENCE M JR R
270 DELLINGTON LANE
CREVE COEUR, MO 63141

KOUCHEKZADEH, BEHJAT PTH
7403 HARDSCRAPPLE #C
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KOVAC, S. ROBERT OBG
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-567-5016

KOWERT, EDWARD H P
PAVILION SUITE 16303
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
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KRAETSCH, ROBERT E IM
4949 BARNES HOSPITAL PLAZA
SUITE #16422
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KRAIN, SAMUEL R
17 BRIAR CLIFF
ST LOUIS, MO 63124
314-721-0242

KRAMER, JEFFREY B GS
#12-K 18 S. KINGSHIGHWAY
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314-569-2015

KRAUS, FREDERICK T PTH
ST JOHNS MERCY MED CTR
615 S, NEW BALLAS RD.
ST LOUIS, MO 63141
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KRAUSE, G. LYNN GS
224 S. WOODS MILL RD.
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KREBS, FESTUS J III OTO
7712 BELLSTONE RD.
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KRECHEL, SUSAN L AN
13881 TESSON FERRY RD
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KRESKI, KENNETH C IM
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KRETCHMAR, ALAN F OPH
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KROMER, CHAS J IM
3545 LAFAYETTE
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12033 ROBYN PARK DR.
ST. LOUIS, MO 63131
314-567-1992

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16301 W. PAVILION
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11115 NEW HALLS FERRY RD
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ST, LOUIS, MO 63104
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KYAW, MYO M DR
11155 DUNN RD
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660 S, EUCLID
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77 WESTPORT PLAZA DR.
SUITE 363
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11155 DUNN RD. SUITE 308
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314-361-8100

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2386 N. HWY 67
FLORISSANT, MO 63033
314-837-0030

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1467 REAUVILLE DR-WARSO
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LAUER, JOHN D R
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ST. LOUIS, MO 63141
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12848 TOPPING MEADOWS DR.
TOWN & COUNTRY, MO 63131
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ST. JOHN'S MERCY HOSP.
615 SO. NEW BALLAS RD,
ST LOUIS, MO 63141
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510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-362-1053
LEE, KIL S DR
11155 DUNN RD
ST LOUIS, MO 63136
314-355-2300
LEE, LEANDER K AN
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ST. LOUIS, MO 63108
LEHNERT, STEPHEN E OBG
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
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#7 OVERBROOK DR.
ST. LOUIS, MO 63124
LEIGHTNER, WM F IM
550 BEDFORD AVE
ST LOUIS, MO 63130
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LEMING, BERT H PTH
11714 CRAIGVIEW DR
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LEMLEY, JOHN S ONC
9293 WATSON RD.
ST. LOUIS, MO 63126
314-962-9000
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MO BAPTIST DIAGNOSTIC CTR.
3009 N. BALLAS STE. 216
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LESLIE, CHAS H FP
209 S. KIRKWOOD
ST. LOUIS, MO 63121
LEVECK, KATHLEEN T OBG
7334 DREXEL DR.
ST. LOUIS, MO 63130
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LEVIN, MARVIN E IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
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LEVITT, JOS IM
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ST LOUIS, MO 63117
314-362-2927
LEVITT, ROBT G DR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-2191
LEVY, JEROME F GS
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ST LOUIS, MO 63110
314-367-9400
LEVY, MORTON A IM
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CREVE COEUR, MO 63141
314-569-0160
LEWIN, W. HOWARD OPH
818 OLIVE ST SUITE 450
ST LOUIS, MO 63101
314-421-1749
LEWIS, JAMES E PDS
7129 KINGSBURY BLVD.
ST LOUIS, MO 63130
LEWIS, ROBERT D OPH
9187 ARROW DR.
ST LOUIS, MO 63123
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LIAO, KUN T PTH
11636 ADMINISTRATION DR
ST LOUIS, MO 63141
314-567-3905
LIEB, FRANCIS X PD
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-7991
LIEBERMAN, DAVID M IM
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
314-361-5300
LIEBHABER, HARVEY IM
8515 DELMAR
ST LOUIS, MO 63124
314-991-1766

LIGHT, BARRY PD
8112 DELMAR
ST. LOUIS, MO 63130
314-434-2769
LILLY, DOUGLAS R NM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-3456
LIM, PIEMSAK OBG
3478 BRIDGELAND SUITE #4
BRIDGETON, MO 63044
314-291-3770
LIMA, JOSE A OTO
10004 KENNERLY RD.
ST. LOUIS, MO 63128
314-843-8400
LIN, HSIU-SAN TR
510 S. KINGSHIGHWAY
ST. LOUIS, MO 63110
314-362-7034
LINDEMAN, CARL H FP
7101 WESTMORELAND
ST LOUIS, MO 63130
LINDER, HOWARD E PUD
3015 N BALLAS RD
ST LOUIS, MO 63131
314-569-5131
LINK, ALEXANDER J DR
7215 MARYLAND
ST LOUIS, MO 63130
314-432-5284
LINS, ROBT D PD
309 MANCHESTER RD
MANCHESTER, MO 63011
314-391-8710
LIPSCHITZ, ERVIN P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-872-7646
LIPSITZ, ELLIS S IM
100 N. EUCLID SUITE 2
LOWER LEVEL
ST LOUIS, MO 63100
314-367-6528
LISCHWE, DANIEL H FP
12255 DEPAUL DRIVE
SUITE 600
BRIDGETON, MO 63044
314-291-1074
LISS, JAY L P
763 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-569-0212
LITTMANN, LEWIS E IM
56 CRESTWOOD DR.
CLAYTON, MO 63105
LITZOW, PETER L R
520 LOCUST CT.
WEBSTER GROVES, MO 63119
LIVINGSTON, DON G PD
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LO PICCOLO, VINCENT J SR IM
2719 LACLEDE ROAD #C
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LO PICCOLO, VINCENT J JR PD
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LOEB, VIRGIL IM
4909 BARNES HOSP PLAZA
ST LOUIS, MO 63110
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LOEFFEL, ELLEN S GYN
3654 S. GRAND
ST LOUIS, MO 63118
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LOGIE, MACDONALD B R
13697 PEACOCK FARM
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314-361-7373
LOHR, ROBT W R
236 CONWAY HILL RD
ST LOUIS, MO 63141
LOITMAN, BERNARD S R
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1040 N. MASON RD.
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2646 MICHIGAN
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LUGO, SAML GS
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LUH, ANDREW M URS
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MARSH, JEFFREY L PS
500 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-7390

MARSHALL, JAY P II IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-870-6260

MARTEL, DOMINIQUE J AN
7344 PRINCETON AVE
ST LOUIS, MO 63130
314-965-7000

MARTIN, DANL J OBG
MERCY DOCTOR'S BLVD.
621 S NEW BALLAS RD
ST. LOUIS, MO 63141
314-432-8505

MARTIN, DAVID S R
1383 WHITE ORCHARD
ST LOUIS, MO 63146
314-865-3333

MARTIN, FREDERICK W OBG
325 N KIRKWOOD RD
ST LOUIS, MO 63122
314-966-4920

MARTIN, PHILIP L OTO
10000 HIGHWAY 366
ST LOUIS, MO 63126

MARTIN, SCOTT A PTH
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141

MARTIREZ, EMMANUEL R
SUITE 333 NORTHLAND MED BLDG
JENNINGS, MO 63136
314-389-6060

MARTZ, JOHN C PD
325 N KIRKWOOD RD
ST LOUIS, MO 63122
314-966-4555

MASSIE, EDWARD CD
9806 LITZSINGER ROAD
ST LOUIS, MO 63124

MASTERS, WM H OBG
24 N. KINGSHIGHWAY BLVD.
ST LOUIS, MO 63108
314-361-2377

MATHEW, RUBY OBG
224 S. WOODSMILL RD.
CHESTERFIELD, MO 63017
314-878-2233

MATSUBA, HOWARD M ENT
40 N. KINGSHIGHWAY 11-H
ST. LOUIS, MO 63108
314-361-5521

MATTHEWS, JOHN G IM
3707 WATSON RD
ST LOUIS, MO 63109
314-781-3886

MAUGHS, SYDNEY B P
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-8242

MAUPIN, KATHY C OBG
615 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-6000

MAXWELL, RICHARD W IM
5257 LINDELL BLVD.
ST LOUIS, MO 63108

MAYER, ROBT A IM
3009 N. BALLAS RD.
SUITE #108
ST LOUIS, MO 63131
314-569-3990

MAYES, BEN R DR
12743 CONWAY LAKE
CREVE COEUR, MO 63141
314-434-6793

MAYFIELD, ROSS AN
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-6880

MAYUGA, EDGARDO G AN
10010 KENNERLY RD
ST LOUIS, MO 63128
314-525-1969

MC ADAM, CHAS R FP
7516 FLORISSANT RD
ST LOUIS, MO 63121
314-381-0477

MC AFEE, C. ALAN GS
8018 WATKINS DRIVE
ST LOUIS, MO 63105

MC ALISTER, WM H R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-7115

MC CALL, EDWIN L US
3751 CEDARIDGE RD.
KALAMAZOO, MI 49008

MC CARTHY, CHRISTOPHER E IM
4600 S. LINDBERG
ST. LOUIS, MO 63127
314-842-5211

MC CARTHY, JOHN M IM
1035 BELLEVUE AVE
ST LOUIS, MO 63117
314-645-2810

MC CLENNAN, BRUCE L DR
510 SOUTH KINGSHIGHWAY
ST. LOUIS, MO 63110
314-362-1053

MC CLINTOCK, MARTIN B FP
14382 WOODLAKE
CHESTERFIELD, MO 63017
314-434-3333

MC CLOSKEY, R. BRUCE OTO
10004 KENNERLY
SUITE 140
ST LOUIS, MO 63128
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MC COOL, JAMES F IM
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

MC COWN, ALLAN H R
9801 LOG CABIN CT
ST LOUIS, MO 63124
314-727-0012

MC FADDEN, JAMES GS
141 N MERAMEC AVE
ST LOUIS, MO 63105

MC GINNIS, WM F OBG
224 SO. WOODS MILL RD
SUITE 450
CHESTERFIELD, MO 63017
314-434-2454

MC GUIRE, BERNARD J IM
615 SOUTH NEW BALLAS RD.
CREVE COEUR, MO 63141
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MC KELVEY, JOHN K PD
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BELLEVILLE, IL 62223
314-454-6000

MC KINNEY, JOE K P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-2266

MC KINNEY, JOHN W ENT
861 PEBBLEFIELD
MANCHESTER, MO 63011
314-394-2044

MC LAREN, A. LESLEY FP
3908 S. GRAND
ST. LOUIS, MO 63118
314-771-0045

MC LEAN, ROYAL C GP
520 W JEWEL AVE
KIRKWOOD, MO 63122

MC MULLIN, FORBES A ORS
12615 OLD TESSON ROAD
ST LOUIS, MO 63128
314-849-0311

MC MURRAY, HERBERT C FP
356 WATFORD DR.
BALLWIN, MO 63011

MC NALLEY, MICHAEL OBG
10733 BIG BEND
ST LOUIS, MO 63122
314-821-1315

MC NAMARA, JOHN J R
21 BERKSHIRE
RICHMOND HTS., MO 63117
314-645-2838
MEADOR, JAMES R GS
36 OAK PARK DRIVE
ST LOUIS, MO 63141
MEADOWS, C. DOUGLAS OM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
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MEDLER, JOHN F OBG
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-872-9192
MEDLER, F. LOUIS D
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-567-1291
MEHAN, DONALD J U
1035 BELLEVUE
ST LOUIS, MO 63117
314-644-6767
MEHRA, RACHNA PD
6651 CHIPPEWA SUITE 306
ST. LOUIS, MO 63109
314-644 3927
MEHRA, RAVI JR IM
4590 S. LINDBERGH
ST. LOUIS, MO 63127
314-043-3454
MEHRA, S K IM
6651 CHIPPEWA SUITE 306
ST LOUIS, MO 63109
314-644-3927
MEHRA, USHA OBG
4590 S. LINDBERGH
ST. LOUIS, MO 63127
314 843-3454
MEINBERG, WM H OPH
11051 YOLANDA AVE.
NORTHRIDGE, CA 91326
MEINERS, DAVID J GS
386 CONWAY LANE DR.
ST. LOUIS, MO 63141
314-771 7600
MEINERS, PAUL N GS
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-993-2930
MEINERS, THEODORE M OBG
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-576-0930
MELICK, WM F U
911 S BRENTWOOD #228
ST LOUIS, MO 63105
314-725-6551
MELL, ROGER L ORS
224 S. WOODS MILL ROAD
SUITE 255
CHESTERFIELD, MO 63017
314 434 3240
MELSON, G. LELAND DR
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314 362 1053
MENDELSOHN, GEORGE E NS
224 S. WOODS MILL RD.
SUITE 610
CHESTERFIELD, MO 63017
314-367-0787
MENDELSOHN, ROBT S IM
522 N. NEW BALLAS
ST LOUIS, MO 63141
314-567-1902
MENDELSON, DAVID F N
141 N MERAMEC AVE
ST LOUIS, MO 63105
314-726-3202
MENDONSA, LAWRENCE E OBG
9811 W FLORISSANT BLVD
ST LOUIS, MO 63136
314-522-3443
MENESES, ORLANDO G FP
11327 GRAVOIS
ST LOUIS, MO 63126
314-843-3337
MERENDA, FRANK J ORS
621 S. NEW BALLAS RD.
CREVE CUEUR, MO 63141
314-567-5850
MERENDA, SAM J R
6651 CHIPPEWA
ST LOUIS, MO 63109
314-647-8893
MERKEL, JOHN U FP
206 SANTA MARIA
EFFINGHAM, IL 62401
314-569-6010
MERRIMS, THEODORE OBG
8631 DELMAR BLVD
ST LOUIS, MO 63124
314 993-5563
MERRITT, BURCH A PD
12937 TIMMOR CT
ST LOUIS, MO 63131
314-303-2953
MERRITT, DIANE F OBG
4911 BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-362-7135
MESTRES, HUGH M PD
12660 LAMPLIGHTER SQ
ST LOUIS, MO 63128
314-842-0330
MEYER, HARRY E P
621 S NEW BALLAS RD.
ST. LOUIS, MO 63141
314-997-3443
MEYER, JAMES E FP
USAF MC 552 CIRCLE DR.
DEERFIELD PLANTATION
MYRTLE BEACH, SC 29577
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314-569-0212
MEYER, JOHN S CLP
216 S KINGSHIGHWAY
ST. LOUIS, MO 63110
314 454-8462
MEYER, MELVIN E OPH
6651 CHIPPEWA
ST LOUIS, MO 63109
314 645-4100
MEYER, ROBERT C GS
1035 BELLEVUE SUITE 211
ST. LOUIS, MO 63117
314-644-6300
MEYER, WAYNE W GS
12255 DEPAUL DR.
SUITE 755
ST. LOUIS, MO 63044
314-739-6060
MEYERS, ELSIE F AN
6364 ALEXANDER DR
CLAYTON, MO 63105
314-362-5604
MEYERS, JOHN B IM
120 N. FORSYTH BLVD
CLAYTON, MO 63105
314-726-2425
MEYERS, ROBT W P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-8424
MICHAEL, HELEN E. B. PTH
129 OAKSIDE LANE
KIRKWOOD, MO 63122
314-569-6120
MICHAEL, JOHN M OPH
129 OAKSIDE LANE
KIRKWOOD, MO 63122
314-965-4832
MICHAEL, VERNON E GS
45 HUNTLEIGH WOODS
ST LOUIS, MO 63131
MICHAELREE, JOHN F FP
921 LA CHERIE
MANCHESTER, MO 63011
MIDDLETON, JERRY N OBG
224 S WOODS MILL ROAD
SUITE 750
CHESTERFIELD, MO 63017
314-569-0055
MIER, THOS M OBG
900 OAKHAVEN
COLUMBIA, MO 65201
314-445 3242
MIHALKO, SUE K FP
3908 S. GRAND
ST. LOUIS, MO 63118
314-771-0045
MIKHAIL, GEORGE OBG
1325 S. GRAND BLVD.
ST. LOUIS, MO 63104
314-776-6095
MIKOLAJCZAK, JAMES P
10004 KENNERLY RD.
SUITE 255
ST LOUIS, MO 63128
314-842-6440
MILDER, BARRY D OPH
2821 N BALLAS RD.
ST. LOUIS, MO 63131
314-432-7010
MILDER, BENJ OPH
10 TERRYHILL LANE
ST LOUIS, MO 63131
314-727-4000
MILES, PAUL W OPH
15 RIDGE CREEK RD
ST LOUIS, MO 63141
MILL, WM B JR TR
1325 S. GRAND
DEPT OF RADIATION, ONC.
ST. LOUIS, MO 63104
314-773-1974
MILLANGUE, CONSOLACION P IM
8059 WATSON RD
WEBSTER GROVES, MO 63119
314-961-8207
MILLANGUE, RAFAEL M GS
8059 WATSON RD
WEBSTER GROVES, MO 63119
314-961-8206
MILLER, CHARLES W D
10004 KENNERLY RD.
ST. LOUIS, MO 63128
MILLER, CHAS JR IM
12166 BIG BEND BLVD
KIRKWOOD, MO 63122
314-821-9150
MILLER, EDWARD J IM
522 N NEW BALLAS STE 34
ST LOUIS, MO 63141
314-567-3113
MILLER, GEOFFREY W R
60 BERKSHIRE
ST LOUIS, MO 63117
314-441-6730
MILLER, JAMES R PTH
99 TRENT DR
ST LOUIS, MO 63124
314-645-1960
MILLER, JAMES E OPH
ST. JOHNS MERCY TOWER B 5007
621 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-567-0644
MILLER, JULE P P
4524 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-2660
MILLER, ROBT N AN
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-6080
MILLER, WM V CLP
4050 LINDELL BLVD
ST LOUIS, MO 63100
314 658-2131
MILSTEAD, KENNETH L JR AN
4817 DORSET AVE
CHEVY CHASE, MD 20015
MILSTER, CLYDE R OPH
7443 HIBBARD LANE
ST LOUIS, MO 63123
MINNIHAN, ROBT W P
111 S. BEMISTON AVE.
ST LOUIS, MO 63105
314-469-1452
MIRRAHA, MITCHELL M ORS
4110 VON TALGE RD
ST LOUIS, MO 63128
314-094-2404
MISCHNICK, CAROL R PS
10004 KENNERLY RD
ST. LOUIS, MO 63128
314 842-5805
MISHKIN, MARVIN R ORS
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-432-2323
MISKOVSKY, EMIL F IM
12255 DEPAUL DR. SUITE 865
BRIDGETON, MO 63044
314-291-7730
MISSEY, WILBURN C IM
2439 BAXTON WAY
CHESTERFIELD, MO 63017
MISTRY, TEHMTON S OBG
35 N CENTRAL
ST LOUIS, MO 63105
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209 KINGSTON RD.
GREENWOOD, SC 29646
MITHEN, FRANCIS A N
3877 MARIETTA
ST LOUIS, MO 63121
314-454-2401
MODIN, JEFFREY J CHN
555 N NEW BALLAS RD.
SUITE 100
ST. LOUIS, MO 63141
314-569-0720
MOELLER, DELBERT OBG
14377 WOODLAKE DR
CHESTERFIELD, MO 63017
314-870-6977
MOHS, FRANK R IM
12303 DEPAUL DR.
BRIDGETON, MO 63044
314-344-6264
MOLDEN, C. SCOTT S IM
ST. LOUIS MEDICAL CLINIC
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111
MOLDEN, CHAS A FP
7520 NATURAL BRIDGE RD
ST LOUIS, MO 63121
314-385-4555
MOMTAZEE, SAM OBG
224 S. WOODS MILL RD.
ST LOUIS, MO 63017
314 878-1700
MONAFO, WM W GS
4989 BARNES HOSPITAL PLAZA
ST LOUIS, MO 63110
314-362-7840
MONAT, SEYMOUR M OBG
8631 DELMAR BLVD
ST LOUIS, MO 63124
314-993-3881

MONTANI, CHAS FP
2334 MACKLIND
ST LOUIS, MO 63110
314-771-4082

MONTERUBIO, FRED R JR OBG
10449 ST. CHARLES ROCK RD.
ST. ANN, MO 63074
314-429-1900

MONTES, ARTURO C FP
4585 WASHINGTON
SUITE C-4
FLORISSANT, MO 63033
314-921-4550

MONTES-DE-OCA, JULIO IM
950 FRANCIS PL
CLAYTON, MO 63105
314-726-2828

MONTGOMERY, AUSTIN F IM
3009 N. BALLAS RD.
SUITE 107
ST LOUIS, MO 63131
314-872-8225

MOOLSINTONG, PORNCHAI R
447 TWIN CREEK RD.
ST. LOUIS, MO 63141
314-768-8250

MOON, THOS R JR N
12166 BIG BEND BLVD
KIRKWOOD, MO 63122
314-965-1844

MOORE, ALVA IM
5142 RAYMOND AVE
ST LOUIS, MO 63113

MOORE, HARRY G JR CHP
141 N MERAMEC
#107
ST LOUIS, MO 63105
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MOORE, WALTER L N
215 N. CENTRAL AVE.
CLAYTON, MO 63105
314-725-1526

MORA, ALVARO OBG
1650 BOONSLICK
ST. CHARLES, MO 63301
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MORAN, THOS M P
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889 S. BRENTWOOD
ST LOUIS, MO 63105
314-727-9541

MORGAN, HARRY C ORS
4989 BARNES HOSP PLAZA
ST LOUIS, MO 63110
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MORGAN, STEPHAN S OPH
16 HAMPTON VILLAGE PLAZA
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12255 DEPAUL DR.
BRIDGETON, MO 63044
314-291-8787

MORITZ, MARK W GS
8729 DELMAR BLVD.
ST. LOUIS, MO 63124
314-454-2000

MORLEY, MARY A OBG
224 S. WOODS MILL RD. #530
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MORRIS, ALAN H ORS
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MORRIS, R. WILLIAM IM
1004 KENNERLY RD.
SUITE 2355
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314-961-0370

MORRISON, ARLEN E IM
224 SOUTH WOODS MILL RD.
SUITE 370
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MORTENSEN, FREDE IM
26 OLD WESTBURY LANE
ST LOUIS, MO 63119

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3737 N KINGSHIGHWAY
ST LOUIS, MO 63115
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1245 GRAHAM ST
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MOTCHAN, DENNIS G IM
3394 MCKELVEY RD.
BRIDGETON, MO 63044
291-341-0000

MOTIER, THOMAS H PD
16 HAMPTON VILLAGE
ST. LOUIS, MO 63109
314-351-2004

MOWREY, WM O FP
7071 LINDELL BLVD.
ST LOUIS, MO 63130

MUCHNICK, RICHARD L IM
12494 TESSON FERRY RD.
ST. LOUIS, MO 63128
314-849-6000

MUCKERMAN, RICHARD 1 OBG
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5515

MUCKERMAN, RICHARD C II OBG
621 S. NEW BALLAS RD.
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ST. LOUIS, MO 63141
314-567-5515

MUDD, J.F. GERARD CD
1325 S GRAND BLVD
ST LOUIS, MO 63104
314-771-7600

MUELHEIMS, GERHARD H IM
1515 LAFAYETTE AVE
ST LOUIS, MO 63104
314-622-5374

MUELLER, CLARENCE E IM
522 N NEW BALLAS RD-
ST LOUIS, MO 63141
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MUELLER, HOWARD A IM
5349 SUTHERLAND
ST. LOUIS, MO 63109
314-752-7528

MUELLER, JOHN J PTH
7300 CHRISTOPHER DR.
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MUELLER, JOS A FP
2968 SPRING WATER DR.
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4917 RAVENSWOOD APT 111
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MUELLER, WILBUR K R
9645 BIG BEND BLVD
BETHESDA DILWORTH ME
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MUHAMMUD, FAQUIR IM
11155 DUNN RD
SUITE 210 E
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361-488-0000

MURPHY, DANIEL J IM
3394 MCKELVEY ROAD
HAZELWOOD, MO 63044
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MURPHY, JAMES P CD
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-862-5252

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MUSCHANY, NORMAN K OBG
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NAIR, KALADY P IM
1001 HWY K
O'FALLON, MO 63366
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NALAGAN, MARCOS C IM
9730 EAST WATSON RD.
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314-842-7550

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SUITE 310
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314-965-5868

NARYKA, JOSEPH J U
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ST LOUIS, MO 63105
314-725-6551

NASEER, RIAZ A N
1338 TOPPING RD.
ST LOUIS, MO 63131
314-837-6700

NASH, HELEN E PD
1441 N GRAND
ST LOUIS, MO 63106
314-535-8353

NASH, HOMER E JR PD
3737 N KINGSHIGHWAY
SUITE 101
ST LOUIS, MO 63118
314-261-5250

NATHAN, LESTER J GS
777 S NEW BALLAS RD
ST LOUIS, MO 63141
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NEAR, DAVID M GS
1125 GRAHAM ROAD
FLORISSANT, MO 63031
314-838-5700

NEEDLES, BURTON M IM
12255 DEPAUL DR. STE. 190
BRIDGETON, MO 63044
314-355-5597

NELSON, J. ROGER CD
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NEMEC, STANLEY S R
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NEPUTE, JAMES A R
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ST. LOUIS, MO 63141
314-569-6031

NEUMAN, NEAL U
456 N NEW BALLAS RD
ST. LOUIS, MO 63141
314-567-6071

NEWMAN, MATTHEW OPH
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ST. LOUIS, MO 63117
314-863-8866

NEWMARK, LEONARD N IM
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3330

NEWPORT, GERALD OBG
77 WESTPORT PLAZA
SUITE 265
ST. LOUIS, MO 63141
314-878-7333

NEWTON, GORDON IM
141 N MERAMEC SUITE 202
ST LOUIS, MO 63105
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NGUYEN, LOI D FP
348 HUNTER'S GLEN CT.
ELLISVILLE, MO 63011
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314-645-2003

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SUITE 500
ST, LOUIS, MO 63117
314-781-8405

NIESEN, FRANK J GS
6500 CHIPPEWA
ST LOUIS, MO 63109
314-352-5193

NIESEN, THOMAS E GS
4960 AUDUBON
ST LOUIS, MO 63110
314-454-3042

NIEVA, DELFIN T AN
5291 BRASS LANTERN
ST LOUIS, MO 63128
314-772-1456

NIGH, CHAS A GS
3915 WATSON RD
ST LOUIS, MO 63109
314-644-7100

NISHI, TOSHIO PTH
3071 ANDOVER DR.
ST. LOUIS, MO 63121

NOLAN, CHAS J R
312 CHATEAUGAY
CHESTERFIELD, MO 63017

NOLLER, HENRY W IM
#6 WATCH HILL RD.
ST LOUIS, MO 63124
314-426-3300

NOMURA, ROY M PTH
13276 MANCHESTER RD.
ST LOUIS, MO 63131
314-822-0990

NORPLICHT, SCOTT M IM
SUITE 4104 QUEENY TOWER
BARNES HOSPITAL PLAZA
ST. LOUIS, MO 63110
314-367-3734

NORLAND, CHAS C IM
ST. LOUIS MEDICAL CLINIC
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-432-1111

NOUHAN, JOS G JR OBG
621 S NEW BALLAS STE 56
CREVE COEUR, MO 63141
314-432-3723

NOURI, HASSAN OBG
12622 ALSWELL LANE
ST LOUIS, MO 63128
314-842-4000

NOVACK, MARK A IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-7220

NUETZEL, JOHN A IM
911 S BRENTWOOD BLVD
CLAYTON, MO 63105
314-726-1126

NUNEZ, MARIA A PD
2821 BALLAS RD STE 135
ST LOUIS, MO 63131
314-872-3236

NWAOBASI, SAM GS
11277 ASHCROFT LANE
ST. LOUIS, MO 63136
314-355-3487

NYE, ROBT S GP
4852 S. BROADWAY
ST LOUIS, MO 63111

O'BANNON, LON W IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-838-5700

O'BRIEN, EDWARD J JR R
6150 OAKLAND AVE
ST LOUIS, MO 63139
314-645-8510

O'BRIEN, ROBERT M ORS
950 FRANCIS PLACE
ST LOUIS, MO 63105
314-862-2012

O'CONNELL, TIMOTHY PS
621 S. NEW BALLAS RD.
ST LOUIS, MO 63141
314-991-2151

O'CONNOR, ROBT J FP
11133 DUNN RD.
ST. LOUIS, MO 63136
314-355-2300

O'DONNELL, FRANCIS E OPH
3655 VISTA AVE.
ST. LOUIS, MO 63110
314-772-9200

O'DONNELL, JOS V IM
1661 DUNMORR
ST LOUIS, MO 63131
314-872-3307

O'DOWD, JAMES A GP
9405 MACKENZIE RD
ST LOUIS, MO 63123

O'KEEFE, JOHN J IM
3555 SUNSET OFFICE DR.
ST. LOUIS, MO 63127
314-821-4124

O'KEEFE, JOS D OBG
533 COUCH AVE.
KIRKWOOD, MO 63122
314-965-3213

O'NEAL, LAWRENCE W GS
615 SOUTH NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-6440

O'NEAL, PATRICIA L P
4989 BARNES HOSP PLAZA-
ST LOUIS, MO 63110
314-367-4500

O'REILLY, D. ELLIOTT ORS
1465 S. GRAND BLVD.
ST LOUIS, MO 63104
314-577-5646

O'SULLIVAN, DANL F GS
10007 KENNERLY RD
SUITE A
ST LOUIS, MO 63120
314-849-2727

OAKLEY, MARGARET M AN
407 STEEPLE CHASE
ST LOUIS, MO 63131
314-965-1567

OCHOA, PEDRO GS
3555 RITZ CENTER
ST. LOUIS, MO 63125

OERTLI, ROBERT IM
12494 TESSON FERRY RD.
ST. LOUIS, MO 63128
314-849-6000

OETTER, DONALD L A
6744 CLAYTON RD
ST LOUIS, MO 63117
314-434-7445

OGLESBY, RICHARD B OPH
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-5478

OHLMS, DAVID L P
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5011

OJASCASTRO, ALEJANDRO C FP
9465 CROOKED CREEK TRAIL
ST LOUIS, MO 63127
314-773-1585

OKUN, EDWARD OPH
EAST PAVILION SUITE 17413
4949 BARNES HOSP. PLAZA
ST LOUIS, MO 63110
314-367-1181

OLK, R. JOSEPH OPH
4949 BARNES HOSP PL
SUITE 17413
ST. LOUIS, MO 63110
314-367-1181

OLLADA, MIGUEL M IM
201 MANCHESTER
MANCHESTER, MO 63011
314-527-2544

OLLINGER, HENRY G PS
3009 NORTH BALLAS RD.
ST LOUIS, MO 63131
314-872-7800

OMELL, GARY H DR
467 KILLEARN
ST LOUIS, MO 63141
314-361-1212

ONG, ENG L GS
100 N. EUCLID
ST. LOUIS, MO 63108

ONG, OFELIA S OBG
100 N. EUCLID AVE.
ST. LOUIS, MO 63108
314-367-0711

ONKEN, HENRY D PS
106 ABERDEEN
ST LOUIS, MO 63105
314-727-8404

OPPENHEIMER, HENRY E IM
911 S. BRENTWOOD BLVD.
CLAYTON, MO 63105
314-725-9656

ORENSTEIN, JOSEPH M PUD
417 JACKSON AVE
ST LOUIS, MO 63130

ORGEL, M. NORMAN IM
1 HARCOURT DR
ST LOUIS, MO 63105
314-367-3900

ORGEL, MICHAEL IM
9033 COPPER HILL RD
ST LOUIS, MO 63124
314-367-3900

ORILLE, OSCAR P DR
PSC 3 BOX 16355
APO
SAN FRANCISCO, CA 96432

ORSAY, PAUL K DR
11155 DUNN RD RM 201
ST LOUIS, MO 63136
314-381-6510

ORTBALS, DAVID W IM
224 SOUTH WOODS MILL RD.
SUITE 620
CHESTERFIELD, MO 63017
314-434-8001

ORTIGUERO, LEOPOLDO M FP
10577 WINDSWEPT DR
ST LOUIS, MO 63128
314-892-2066

ORTILLO, AMADO P OBG
3009 N. BALLAS RD.
ST LOUIS, MO 63131
314-872-8345

ORTMEYER, LEROY F IM
11372 FIVE OAKS PARKWAY
ST LOUIS, MO 63128
314-487-6910

OSAGHAE-MORGAN, HARRY A SR U
3644 NATURAL BRIDGE
ST. LOUIS, MO 63107
314-652-1013

OSTAPOWICZ, FRANK OBG
6420 CLAYTON RD.
ST LOUIS, MO 63117
314-768-8780

OSTAPOWICZ, TAMARA L OBG
526 FRANRU
ST. LOUIS, MO 63125
314-622-5341

OTT, F. THOMAS OPH
#22 ALGONQUIN LANE
ST. LOUIS, MO 63119
314-863-8866

OTT, HAROLD J OBG
1034 S. BRENTWOOD BLVD.
ST LOUIS, MO 63117
314-721-7900

OTT, WM J OBG
6420 CLAYTON RD.
ST LOUIS, MO 63117
314-768-8000

OTTOLINI, JAMES L OBG
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-569-3190

OWEN, JAMES W IM
12555 MASON FOREST DRIVE
CREVE COEUR, MO 63141
314-434-3434

OWEN, ROBT F IM
12 HACIENDA DR
ST LOUIS, MO 63124
314-837-3720

OWENS, WM D OS
4989 BARNES HOSPITAL PLAZA
DEPT OF ANESTHESIOLOGY
ST LOUIS, MO 63110
314-362-6973

OZMAT, ORHAN M R
4 LADUE CREST LANE
ST LOUIS, MO 63124

PACKMAN, PAUL P
1034 S. BRENTWOOD
SUITE 1180
ST LOUIS, MO 63117
314-727-1666

PACKMAN, ROBT C IM
4652 MARYLAND AVE.
ST. LOUIS, MO 63108
314-367-3113

PADILLA, TERESITA C OBG
5505 DELMAR BLVD
ST LOUIS, MO 63112
314-361-0202

PAEZ, MAURO A CLP
11636 ADMINISTRATION DR
ST LOUIS, MO 63141
314-567-3715

PAINE, ROBT IM
5505 DELMAR BLVD
SUITE 303
ST LOUIS, MO 63112
314-361-8833

PAINO, ROBERT J IM
7515 HARLAN WALK
ST. LOUIS, MO 63123
314-481-3650

PALAZZO, FRANK A NS
6744 CLAYTON RD
ST LOUIS, MO 63117
314-647-9216

PALETTA, FRANCIS X JR, PS
77 WEST PORT PLAZA
SUITE 260
ST. LOUIS, MO 63146
314-965-5807

PALETTA, FRANCIS X SR PS
1035 BELLEVUE AVE. SUITE 507
ST LOUIS, MO 63117
314-878-0767

PALETTA, FRANK IM
1040 N. MASON RD
ST LOUIS, MO 63141
314-878-9970

PALETTA, THEODORE L IM
1040 N. MASON RD
ST LOUIS, MO 63141
314-878-9970

PALETTA, VICTOR L IM
12762 BOENKER
BRIDGETON, MO 63044
314-291-1170

PALMER, STEPHEN M D.
1035 BELLEVUE AVE.
ST. LOUIS, MO 63117
314-644-0555

PAPPALARDO, CARLOS PS
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-5620

PARDO, LEOPOLDO P NS
12639 OLD TESSON RD.
ST LOUIS, MO 63128
314-849-4854

PARDO, LOURDES PD
801 S. BRENTWOOD BLVD
ST LOUIS, MO 63105
314-726-1100

PARIKH, SHARAD P GS
11637 W FLORRISANT AVE.
FLORISSANT, MO 63033
314-831-4200

PARIKH, SMITA S R
11637 WEST FLORISSANT AVE.
FLORISSANT, MO 63033
314-831-4200

PARIS, WM H FP
7520 NATURAL BRIDGE RD
NORMANDY, MO 63121
314-385-4555

PARKER, THOS W IM
7298 GREENWAY DR
ST LOUIS, MO 63130
314-863-7766

PARKER, WM D
915 OLIVE ST
ST LOUIS, MO 63101
314-241-3221

PARKS, CHARLES GS
SUITE 129
456 N NEW BALLAS RD
CREVE COEUR, MO 63141
314-569-0130

PARSONS, RICHARD P U
224 S WOODS MILL RD
CHESTERFIELD, MO 63017
314-434-3433

PARTAP, PRABHA PTH
2362 RAVENSGATE
ST LOUIS, MO 63131
314-821-0113

PARWATIKAR, SADASHIY D P
5400 ARSENAL ST
ST LOUIS, MO 63139
314-644-8163

PASIA, EBELLO T GS
11115 NEW HALLS FERRY
FLORISSANT, MO 63033
314-838-5600

PASKAR, LARRY D R
14337 STABLESTONE
CHESTERFIELD, MO 63017
314-878-4680

PASSANANTE, DARTHOLOMEW M GS
15 KING LYNN
ST LOUIS, MO 63132

PATEL, JASH I DR
11155 DUNN RD. #304
ST. LOUIS, MO 63136
314-355-5032

PATRICK, ROMAN L PTH
11636 ADMINISTRATION DR
CREVE COEUR, MO 63141
314-567-3905

PAYNE, MEREDITH C PS
1034 SO BRENTWOOD BLVD.
SUITE 778
ST LOUIS, MO 63117
314-727-1337

PAYNE, VAUGHN C R
1423 N GRAND BLVD
ST LOUIS, MO 63106
314-533-4365

PEARLMAN, ALAN L N
517 S EUCLID AVE
ST LOUIS, MO 63110
314-362-7172

PEARSE, CARLTON S OBG
224 S. WOODS MILL RD. #680
CHESTERFIELD, MO 63017
314-367-0399

PEARSON, ANTHONY C IM
7721 RAVENSRIDGE
ST. LOUIS, MO 63119
314-968-4368

PEARSON, WILLIAM E OBG
12166 BIG BEND
KIRKWOOD, MO 63122
314-821-3500

PEDEN, BURNET W IM
35 N CENTRAL AVE
CLAYTON, MO 63105
314-721-7210

PEDEN, JAMES C JR IM
621 S NEW BALLAS RD
ST LOUIS, MO 63141
314-432-3456

PEDEN, JOS C JR GS
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
314-878-2170

PEEBLES, JONATHAN B US
RR #1
BUCHANAN, TN 38222

PELICAN, GEORGE IM
621 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-569-2102

PELZ, MORT D OTO
1116 CHANTAL LANE
ST LOUIS, MO 63132

PENILLA, ANTONIO R IM
12255 DEPAUL DR.
BRIDGETON, MO 63044
314-739-1060

PENNELL, RICHARD C GS
1914 18 1/2 ST. NW
ROCHESTER, MN 55901

PENNINGTON, D. GLENN GS
1325 S. GRAND AVE.
ST. LOUIS, MO 63110
314-771-7600

PENNINGTON, P. EUGENE GS
4160 GLIDDEN DR
STURGEON BAY, WI 54235

PENNOYER, JAMES OBG
4910 FOREST PARK BLVD
ST LOUIS, MO 63108
314-367-7100

PENTELLA, KAREN J N
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-3355

PEPPER, EDWARD G R
6150 OAKLAND AVE
ST LOUIS, MO 63139
314-648-8510

PEPPER, MAX P P
1320 S. GRAND BLVD.
ST LOUIS, MO 63104
314-664-9800

PEREZ, ADAMOR R GS
4415 VERMILLON DR
ST LOUIS, MO 63128
314-789-3313

PEREZ, BLANCA M PTH
10010 KENNERLY DEPT OF PATH.
ST. ANTYONY'S MED CTR.
ST LOUIS, MO 63128
314-991-1078

PEREZ, CARLOS A R
510 S KINGSHIGHWAY
ST LOUIS, MO 63110
314-362-3499

PEREZ, JEANNIE O PD
12255 DE PAUL DR.
BRIDGETON, MO 63044
314-739-2207

PEREZ, ROBERT J IM
533 COUCH AVENUE
ST. LOUIS, MO 63122
314-966-0500

PEREZ, ROMEO J OBG
3009 N BALLAS RD.
ST. LOUIS, MO 63131
314-872-3743

PERINETTI, ENRIQUE P U
11155 DUNN RD.
#2 OFFICE
ST. LOUIS, MO 63136
314-355-1737

PERKINS, DAVID E DR
1034 S BRENTWOOD
ST LOUIS, MO 63117
314-727-0012

PERLMUTTER, STEVEN B OPH
10327 TUXFORD DR.
ST. LOUIS, MO 63146
314-454-2432

PERNOUD, FLAVIUS G III OPH
#15 HUNTLEIGH MANUR
ST LOUIS, MO 63131
314-644-6666

PERNOUD, FLAVIUS G JR OPH
1031 BELLEVUE
ST LOUIS, MO 63117
314-644-6666

PERNOUD, JOAN M OPH
15 HUNTLEIGH MANOR
ST LOUIS, MO 63131
314-353-0016

PERNOUD, MICHAEL F OPH
1031 BELLEVUE
SUITE 501
ST LOUIS, MO 63117
314-644-6666

PERRY, H MITCHELL JR IM
VA MEDICAL CENTER
111 D JC
ST LOUIS, MO 63125

PERRY, WM D IM
1034 S BRENTWOOD BLVD
ST LOUIS, MO 63117
314-721-0666

PESKIN, EDWARD G OBG
100 N. EUCLID AVE.
ST LOUIS, MO 63108
314-658-5251

PETERSON, FREDERICK D PD
8025 DALE AVE
ST LCUIS, MO 63117
314-644-2566

PETERSON, GARY J GS
1325 S. GRAND
DEPT. OF SURGERY
ST LOUIS, MO 63104
314-771-7600

PETKOVICH, FRANK O ORS
11155 DUNN RD.
ST. LOUIS, MO 63136
314-355-7717

PETRUSKA, PAUL J IM
367 CONWAY LAKE DR.
ST LOUIS, MO 63141
314-771-7600

PHILIP, VARKEY E EM
525 COUCH AVE
KIRKWOOD, MO 63122
314-966-1528

PHILLIPS, ABRAHAM M PD
777 S NEW BALLAS RD
ST LOUIS, MO 63141
314-567-9180

PHILLIPS, DANIEL N
18 N. TAYLOR APT. 25
ST. LOUIS, MO 63108
314-533-8112

PHILLIPS, HANFORD IM
215 GRAYBRIDGE RD.
ST LOUIS, MO 63124
314-993-0200

PHILLIPS, JOHN J ORS
12255 DE PAUL DR
BRIDGETON, MO 63044
314-739-7654

PHILLIPS, KAREN J IM
649 S. NEW BALLAS
ST. LOUIS, MO 63141
314-991-1203

PHILLIPS, RANDALL DR
1305 WHISPERING PINES
ST. LOUIS, MO 63146
314-567-4350

PHILLIPS, WM J IM
5505 DELMAR
ST LOUIS, MO 63112
314-454-1500

PHILPOTT, GORDON W GS
216 SOUTH KINGSHIGHWAY
ST LOUIS, MO 63110
314-454-7170

PHIPATANAKUL, CHINTANA S IM
1125 GRAHAM RD
FLORISSANT, MO 63031
314-838-5700

PHIPATANAKUL, SUPOTE OTO
135 W ADAMS
ST LOUIS, MO 63122
314-966-6656

PICCIONE, LEONARD N FP
2377 BROADMONT CT
CHESTERFIELD, MO 63017
314-291-7223

PIEPER, GEORGE R IM
RT. 1
BOONE, IA 50036

PIERRON, ROBERT L ORS
805 BITTERFIELD
BALLWIN, MO 63011
314-394-2349

PIETZ, JEFFREY T PD
132 JOSEPH DR.
FAIRVIEW HEIGHT, IL 62208
314-878-3118

PIGNOTTI, BLASE J OBG
649 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-432-0349

PILEPICH, MILIENKO V R
4511 FOREST PARK
ST. LOUIS, MO 63108
314-362-7034

PIMENTEL, ESPERANZA M FP
2323 CHAMBERS
ST LOUIS, MO 63136
314-867-2736

PIMENTEL, MAURICIO F FP
VA HOSPITAL
915 NO GRAND
ST LOUIS, MO 63125
314-867-2736

PINEDA, HECTOR O IM
4201 HEREFORD
ST LOUIS, MO 63109
314-481-8028

PIPER, AUGUST T IM
4903 MARTIN LUTHER KING
ST LOUIS, MO 63113
314-367-2350

PISONI, STEVEN P IM
3915 WATSON RD.
ST. LOUIS, MO 63109
PITSINGER, N. BRUCE GS
224 S. WOODS MILL RD.
SUITE 540
CHESTERFIELD, MO 63017
314-878-0848
PITTMAN, GERALD R PTH
2021 MEADOWTREE LANE
ST LOUIS, MO 63122
314-965-4022
PITTMAN, SUSAN PD
SUITE 4006 -TOWER B
621 SOUTH NEW BALLAS RD
ST LOUIS, MO 63141
314-567-0016
PLAX, STEVEN I PD
8025 DALE
ST LOUIS, MO 63117
314-644-2566
POLINENI, SUBBARAO GS
6500 CHIPPEWA
ST. LOUIS, MO 63109
314-832-7227
POLITO-COLVIN, JUANITA C PD
1220 WALDRON
ST. LOUIS, MO 63130
PON, MARCELINO FP
2928 HIGH RIDGE BLVD.
HIGH RIDGE, MO 63049
314-677-5711
PONNURU, BHASKARA M AN
13100 THORNHILL DR.
ST. LOUIS, MO 63131
314-049-2488
POPP, DENNIS A IM
777 S. NEW BALLAS RD.
ST. LOUIS, MO 63141
314-567-5529
PORPORIS, ARTHUR A R
024 RENDERER DR
ST LOUIS, MO 63122
314-361-7373
PORTUGAL, ANTONIO Q GS
3917 BRANNON AVE.
ST LOUIS, MO 63109
314-352-8881
PORTUONDO, BONAVENTURE C PTH
3532 FLORA COURT
ST LOUIS, MO 63104
POST, STEPHEN L P
4524 FOREST PARK APT 20
ST LOUIS, MO 63108
314-361-8333
POTASHNICK, ROBT IM
12255 DE PAUL DR
SUITE 865
BRIDGETON, MO 63044
314-291-7730
POTTER, REESE H P
10 HILSHIRE TERR
WEBSTER GROVES, MO 63119
314-291-5054
POTTS, DAN E IM
224 S. WOODS MILL RD.
CHESTERFIELD, MO 63017
POWELL, CHARLES B ORS
1125 GRAHAM RD
FLORISSANT, MO 63031
314-038-5700
POWELL, EARL A U
11114 PALMERAS DR
SUN CITY, AZ 85351
POWELL, JOHN A D
1034 S. BRENTWOOD BLVD.
ST LOUIS, MO 63117
314-863-7080
PRELUTSKY, DAVID J IM
3508 VICTOR
ST. LOUIS, MO 63104
314-776-3592
PRENSKY, ARTHUR L CHN
DEPT OF PEDIATRICS
500 S KINGSHIGHWAY
ST LOUIS, MO 63178
314-454-6084
PRESNELL, CLEITUS A OTO
6744 CLAYTON RD
ST LOUIS, MO 63117
314-645-3700
PRICE, KENNETH C IM
5505 DELMAR- ROOM 201
ST LOUIS, MO 63112
314-361-2910
PROBST, RAYMOND E OBG
10345 WATSON RD
ST LOUIS, MO 63127
314-965-6033
PROBSTEIN, JACOB G GS
4943 LINDELL BLVD
ST LOUIS, MO 63108
314-367-3822
PROPHETE, BEAUMANOIR U
SUITE 906 100 N. EUCLID
ST LOUIS, MO 63108
314-361-3777

PROSKEY, VINCENT J IM
522 N NEW BALLAS RD
ST LOUIS, MO 63141
314-567-3113
PRUETT, BURCHARD S OS
10321 RICHVIEW DR
ST LOUIS, MO 63127
PRUETT, DON S GS
10 LOG CABIN DR
ST LOUIS, MO 63124
314-726-5225
PRUSACZYK, JOS V PD
46 MUIRFIELD
ST LOUIS, MO 63141
966-152-0000
PURCELL, HARRY K GS
911 S BRENTWOOD BLVD
ST LOUIS, MO 63105
314-725-4747
PURCELL, JOHN J JR OPH
6744 CLAYTON RD
ST LOUIS, MO 63117
314-647-2277
PURO, EDWARD A IM
11115 NEW HALLS FERRY RD
FLORISSANT, MO 63033
314-838-0222
QUADIR, HUMAYUM IM
10004 KENNERLY RD
ST LOUIS, MO 63128
314-843-3449
QUICK, RICHARD T P
9821 COPPER HILL ROAD
ST LOUIS, MO 63124
314-567-5185
QURESHI, ABDUL R IM
10004 KENNERLY ROAD
ST LOUIS, MO 63128
314-843-3110
RACADIO, SEVERO M FP
P. O. BOX 1
ARNOLD, MO 63010
314-296-5522
RACHLIN, MAXWELL OPH
211 N MERAMEC
ST LOUIS, MO 63105
314-727-4240
RADER, EDWARD S U
7744 DAVIS DR.
CLAYTON, MO 63105
314-727-7717
RADER, GEO B GS
224 S. WOODS MILL RD.
SUITE 430
CHESTERFIELD, MO 63017
314-576-0060
*RADINSKY, STEPHEN DR
12267 WINROCK DR.
CREVE COEUR, MO 63141
314-434-5936
RADKE, JOHN D CD
3545 LAFAYETTE AVE.
ST LOUIS, MO 63104
RAFFA, M. ALI GS
6651 CHIPPEWA SUITE 218
ST. LOUIS, MO 63109
314-781-1580
RAHMAN, MOUDUDUR OPH
911 S BRENTWOOD
ST LOUIS, MO 63105
314-725-7373
RAICHLE, MARCUS E N
710 JAMAICA CT
ST LOUIS, MO 63122
314-362-2950
RAIKAR, SUDHIR R PD
424 WHITREE LANE
CHESTERFIELD, MO 63017
314-771-6776
RAILEY, MICHAEL T FP
1143 WILSON AVE.
UNIVERSITY CITY, MO 63130
314-727-9275
RAINEY, ROBT GS
5165 LINDELL BLVD
ST LOUIS, MO 63108
314-428-8100
RAJAGOPALAN, LAKSHMY S PD
7225 EMERALD FOREST DR.
ST. LOUIS, MO 63129
314-846-1826
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ST LOUIS, MO 63118
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SCOTT, HILLARD L   FP
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1034 S. BRENTWOOD
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314-721-7325
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SEID, GEO A   FP
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2838 S. GRAND BLVD.
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314-771-0677
SENTURIA, HYMAN R   R
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314-362-7509
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911 S BRENTWOOD BLVD
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314-862-5252
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SHANK, ROBT E   IM
4566 SCOTT AVE
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SHAPIRO, HERBERT N   GS
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ST LOUIS, MO 63117
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12668 WESTPORT DR.
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727-001-0000
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3654 SOUTH GRAND BLVD
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11155 DUNN RD. SUITE 212E
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1325 S. GRAND BLVD.
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ST. LOUIS, MO 63141
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SHELTON, EARL W   IM
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14907 GREENLEAF VALLEY DR.
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1695 S BRENTWOOD BLVD
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SHIEBER, WM   GS
216 S KINGSHIGHWAY BLVD
ST LOUIS, MO 63110
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SHIELDS, JOHN B   R
1325 S. GRAND BLVD.
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GHINE, THOMAS E   GS
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12615 OLD TESSON RD.
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WIMMER, WARREN J 3220 PARKER RD FLORISSANT, MO 63033 314 921-4500	PD
WINDSOR, CHAS E 621 S NEW BALLAS RD ST LOUIS, MO 63141 314-567-5602	OPH
WINER, MICHAEL H 522 N NEW BALLAS RD ST LOUIS, MO 63141 314-432-2323	ORS
WINKLER, WILLIAM H 5101 HAMPTON AVE. ST. LOUIS, MO 63109 314-481-4455	FP
WINTER, JOHN H 3394 MCKEVEY RD BRIDGETON, MO 63044 314-739-5070	IM
WINTER, TYRUS D 100 N EUCLID ST LOUIS, MO 63108 314-361-6633	OBG
WINTERS, KATHLEEN 100 NORTH EUCLID ST LOUIS, MO 63108 314-361-6700	PD
WINTHROP, JAMES D 700 WEST JEWEL AVE. KIRKWOOD, MO 63122 314 821-7634	DR
WISSNER, SETH E 16 HAMPTON VILLAGE ST LOUIS, MO 63109 314-352-6969	OBG
WITHROW, DONALD 10 THORNDELL DR ST LOUIS, MO 63117 314-567-3905	CLP
WITT, CLYDE M 527 MEADOW CREEK LANE ST LOUIS, MO 63122	R
WITTEN, HARRY I 621 S. NEW BALLAS RD. ST. LOUIS, MO 63141 314-569-6800	OBG
WITTGEN, EDWARD M 1031 BELLEVUE AVE. SUITE 200 ST LOUIS, MO 63117 314 647 8562	ORS
WITTLER, HARRY A 325 N KIRKWOOD RD KIRKWOOD, MO 63122 314 821-6162	GS
WOLF, JAMES A JR 1128 SANFORD ST. LOUIS, MO 63139	GS
WOLFE, EDWARD M 777 S NEW BALLAS RD ST LOUIS, MO 63141 314-432-0199	D
WOLFF, DOLORES F 2306 LELAND RIDGE WALK ST. LOUIS, MO 63131 314-569 2030	AN
WOLFF, GERALD A 4949 BARNES HOSP PLAZA ST LOUIS, MO 63110 314-367 2400	IM
WOLFF, HAROLD D 12534 POST GROVE ST. LOUIS, MO 63141 314 569-1717	P
WOLFF, RAY J 1040 N MASON ST. LOUIS, MO 63141 314-434-6020	P
WOLFGRAM, EDWIN D 4500 W PINE BLVD ST LOUIS, MO 63108 314-367 1944	P
WON, RUSSELL 10010 KENNERLY RD. ST. LOUIS, MO 63128 314-525-1900	GP
WOOD, JAMES A 141 N MERAMEC CLAYTON, MO 63105 314-725-4887	IM
WOOD, JOHN A 224 S. WOODS MILL RD. CHESTERFIELD, MO 63017 314-870-6260	A
WOOD, JOSEPH P 3830 JEFFCO BLVD. ARNOLD, MO 63010	IM
WOODS, JOHN JR 621 SOUTH NEW BALLAS #307 ST. LOUIS, MO 63141 314-567-6666	GS
WOOL, GERALD 8025 DALE ST LOUIS, MO 63117 314-644-2566	PD
WOOLSEY, JOYCE E 1034 S BRENTWOOD ST LOUIS, MO 63117 314-725-1522	PD
WOOLSEY, ROBT M 1325 S GRAND BLVD ST LOUIS, MO 63104 314-771-7600	N
WOTAWA, WM J 3804 WILMINGTON AVE ST LOUIS, MO 63116 314-481-7224	OBG
WRAY, ROBT C JR BOX 661 - 601 ELMWOOD AVE. ROCHESTER, NY 14642	PS
WULFF, GEO J 120 CAMELOT DR TAVERNIER, FL 33070	OBG
WURR, DIETER H ARNOLD MED CTR BOX 99 ARNOLD, MO 63010 314-296-5464	FP
WYATT, LOIS C 402 FAIRWOOD LANE KIRKWOOD, MO 63122	FP
YALCIN, ENVER 13070 OLD TESSON FERRY RD ST LOUIS, MO 63128 314-843-3966	IM
YANO, CHAO-YUNG 6420 CLAYTON RD. ST. LOUIS, MO 63177 314 768 0000	AN
YANNAKAKIS, JOHN E 1245 GRAHAM FLORISSANT, MO 63031 314-831-6517	OBG
YANOVER, ROBERT A 224 S. WOODS MILL RD. CHESTERFIELD, MO 63017 314-078-1110	N
YANOW, MITCHELL 621 S. NEW BALLAS RD. ST LOUIS, MO 63141 314-567 5016	OBG
YAP, MARDONIO J 493 RUE ST FRANCOIS FLORISSANT, MO 63031 314-831-0077	GS
YASIN, FAZLE M 6125 CLAYTON AVE. ST. LOUIS, MO 63139 314 644-1333	P
YASSIN, KAMAL 11988 CHARTER HOUSE LANE ST. LOUIS, MO 63141	AN
YATES, DARREL W 2821 N BALLAS RD ST LOUIS, MO 63131 314-432-5284	DR
YAZDI, TOM M 16 HAMPTON VILLAGE PLAZA ST LOUIS, MO 63109 314-352-6969	OBG
YLAGAN, AMANDO JR 8548 BRYAN AVE. ST LOUIS, MO 63117 314 644-0256	GS
YORE, RICHARD W 1034 S BRENTWOOD BLVD ST LOUIS, MO 63117 314-862-3711	TS
YOSELEVSKY, ROBERT 12563 BICKFORD DRIVE TOWN & COUNTRY, MO 63141 314-432 5478	OPH
YOUNG, PAUL H 1325 S. GRAND ST. LOUIS, MO 63104 771-760 0000	NS
YOUNG, VERNON L 4960 AUDUBON ST. LOUIS, MO 63110 314 362-7390	PS
YOUNGER, ANITA C 6813 15TH AVE. DR. WEST BRADENTON, FL 33529	GP
YOUNGER, ERNEST 6813 15TH AVE. DR. WEST BRADENTON, FL 33529	GP
ZACK, PAUL M 1401 E. MICHIGAN AVE. LANSING, MI 40912 517 405-4309	IM
ZAHORSKY, THEODORE S 800 S HANLEY RD-APT 3B ST LOUIS, MO 63105	PD
ZEFFREN, JOEL L 2420 WOODSON RD OVERLAND, MO 63114 314 427-2424	IM
ZEHNDER, KENNETH W 1031 BELLEVUE AVE., #200 ST. LOUIS, MO 63117 314-647-8562	ORS
ZEIGLER, JOS M 3933 S. BROADWAY ST LOUIS, MO 63118 314 065 3333	R
ZEKERT, HORST 5203 CHIPPEWA ST LOUIS, MO 63109 314-351-2298	IM
ZIA, RASHID 915 N GRAND ST. LOUIS, MO 63106 314-487-0400	P
ZIEGELMEYER, JOHN S 40 N KINGSHIGHWAY ST LOUIS, MO 63108	GP
ZIMMERMAN, HERBERT B 456 N. NEW BALLAS SUITE 299 ST LOUIS, MO 63141 314-569-1090	IM

ZINGALE, FRANK G U
19830 STAR RIDGE DR.
SUN CITY WEST, AZ 85375
314-351-0155
ZINK, ROBERT A FP
5101 HAMPTON AVE.
ST. LOUIS, MO 63109
314-481-4455
ZINK, TOM PTH
615 S. NEW BALLAS
ST. LOUIS, MO 63141
314-731-1143
ZIVNUSKA, FREDERICK R TR
615 S NEW BALLAS RD.
ST LOUIS, MO 63141
314-569-6844
ZUGRAFAKIS, GEO H PS
4949 BARNES HOSPITAL PLAZA
SUITE 1741B
ST LOUIS, MO 63110
314-361-3612
ZOTOS, VERONICA D PTH
10010 KENNERLY RD.
ST. LOUIS, MO 63128
314-525-1144
ZUCKNER, JACK IM
16 OAKLEIGH LANE
ST LOUIS, MO 63124
314-567-5100
ZUKOWSKI, EDWARD T R
6710 CLAYTON RD.
ST. LOUIS, MO 63117
314-781-1103
ZWIRN, HANS B PD
493 ST FRANCOIS
FLORISSANT, MO 63031
314-830-4303

198—SALINE

BAIK, KENNETH Y GS
917 SOUTH ODELL
MARSHALL, MO 65340
816-886-9644
BASSEL, ADEL S GP
MARSHALL STATE SCHOOL-HOSP.
MARSHALL, MO 65340
314 886-2202
BLALOCK, ROBT W IM
370 S ODELL ST
MARSHALL, MO 65340
816-086-3366
BUTNER, MICHAEL R FP
370 S ODELL
MARSHALL, MO 65340
816-886-3565
HAMID, RASHID S FP
107 E. VINE
BRUNSWICK, MO 65236
816-548-3021
*HOGAN, PATRICIA E GP
POST OFFICE BOX 190
MARSHALL, MO 65340
16-886-2202
KNIPSCHILD, BEDFORD F GP
370 S ODELL ST
MARSHALL, MO 65340
816-006-3366
LAWRENCE, JOHN R GP
PROFESSIONAL BLDG
ARROW ROCK, MO 65320
816-837-3430
MC BURNEY, CHAS A FP
927 HURT ST.
SLATER, MO 65349
816-529-3222
MC CORKLE, E L GP
MARSHALL PROF BLDG
MARSHALL, MO 65340
016-886-6131
MONROE, PHILIP L FP
370 S. ODELL AVE.
MARSHALL, MO 65340
016-886-3366
PAPRECK, K T FP
370 S ODELL
MARSHALL, MO 65340
816-886-3366
RAYNOR, RICHARD C GP
370 S ODELL
MARSHALL, MO 65340
816-886-3366
ROEHRS, MARVIN E GP
370 S ODELL ST
MARSHALL, MO 65340
816-086-3366

202—SEMO (Stoddard-New Madrid-Mississippi-Scott Counties)

AHLVIN, ROBT C PTH
DELTA COMMUNITY HOSPITAL
SIKESTON, MO 63801
314-471-1600
ASKEW, JOHN H FP
1012 N MAIN STREET
SIKESTON, MO 63801
314-471-0330
BALLIN, ROBERT A AN
731 N. MAIN BLDG. SUITE 109
SIKESTON, MO 63001
314-472-1104
BLAIR, JOHN T FP
P. O. BOX 189
DEXTER, MO 63841
314-624-5911
BLANTON, JOS C PD
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
BRUCE, LEO A OPH
808 E WAKEFIELD
SIKESTON, MO 63801
314-471-3358
CAMPBELL, JAMES W GP
ADVANCE, MO 63730
314-722-5173
314-722-5173
CENTO, DONALD PTH
MO. DELTA COMMUNITY HOSP.
SIKESTON, MO 63801
314-471-1600
CHOUINARD, MICHAEL P IM
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
COLBERT, ROBT S R
108 SALCEDO ROAD
SIKESTON, MO 63801
314-471-1600
COMEAU, RICHARD J GP
W GRANT-CATALPA STS
DEXTER, MO 63841
314-624-3137
CRITCHLOW, MICHAEL E IM
1012 NORTH MAIN
SIKESTON, MO 63801
314-471-0330
CRITCHLOW, WM C FP
BOX 1068
SIKESTON, MO 63801
314-471-0330
DAVIS, WILBUR L FP
101 A NORTH MAIN ST.
CHARLESTON, MO 63834
314-683-6609
DUPONT, JEAN R CD
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
FELKER, C. EDWARD III OTO
1118 N. MAIN
SIKESTON, MO 63801
314-471-6992
FRAZIER, ROBT L FP
110 DUDLEY DR
SIKESTON, MO 63001
314-471-1600
GUZMAN, ANTONIA J OBG
P.O. BOX 668
HIGHWAY 114 W.
DEXTER, MO 63841
314-624-3341
GUZMAN, GENEROSO R OBG
RT. 4 BOX 135-A
DEXTER, MO 63841
314 624-8977
HARRISON, THOMAS J JR PD
1012 N. MAIN ST.
SIKESTON, MO 63801
HEATH, JIMMY D GP
320 N LINCOLN
P. O. BOX 38
EAST PRAIRIE, MO 63845
314 649-5773
HEEB, MAX A GS
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
HELFRICH, LORING GS
1012 N MAIN
SIKESTON, MO 63801
314-471-0330
HILL, RONALD T GS
RT 4, BOX 145A
DEXTER, MO 63841
314-624-8917
HO, GRINNY H OBG
808 E WAKEFIELD ST
SIKESTON, MO 63801
314-471-7555
KAHN, JOSEPH A PD
1012 NORTH MAIN
SIKESTON, MO 63801
314-471-0330
MAHBOUBI, AZIZ O U
BOX 653
SIKESTON, MO 63801
314-471-6602
MARTIN, ANDREW D FP
008 E WAKEFIELD
SIKESTON, MO 63801
314-417-3717
MASSARAT, PARVIZ R
DEXTER MEMORIAL HOSPITAL
DEXTER, MO 63841
314-624-5566
MASTERS, EDWIN J FP
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
MILLER, WILLIAM D GP
HWY 114 W. BOX 519
DEXTER, MO 63841
314-624-4591
NOVICK, HOWARD I GP
P. O. BOX 519
DEXTER, MO 63841
314-624-4591
PAGE, JESSE W IM
1012 N MAIN ST
SIKESTON, MO 63801
314-471-0330
PFEFFERKORN, DAVID A IM
1012 N MAIN
SIKESTON, MO 63801
314-471-0330
POOLE, ANTHONY G OBG
1012 N. MAIN
SIKESTON, MO 63801
314-471-0330
POPP, CARL G IM
1012 N MAIN
PO BOX 1068 %FERGUSON
SIKESTON, MO 63801
314-471-0330
RHODES, JOHN L R
HIGHWAY 61 NORTH
SIKESTON, MO 63U01
314-471-1600
RODRIGUEZ, GREGORIO L GS
P O BOX 394
CHARLESTON, MO 63834
314-683-6066
SARGENT, ALDEN P GP
800 E WAKEFIELD
SIKESTON, MO 63001
314-471-4314
SHELL, WILLIAM C GE
1012 N MAIN
SIKESTON, MO 63801
314-471-0330
THORNTON, FRED H GS
1012 N MAIN ST
SIKESTON, MO 63001
314-471-0330
THROGMORTON, HOWARD B GP
27 GREEN MEADOWS
SIKESTON, MO 63801
314-471-5807
WALTON, JOHN D FP
1012 N MAIN
SIKESTON, MO 63801
314-471-0330
WALTRIP, ROY T FP
307 W MALONE
SIKESTON, MO 63801
314-471-4510

206—SOUTH CENTRAL (Howell-Oregon-Texas-Wright-Douglas-Ozark Counties)

CHERN, MOU S IM
NORTH OF JUNCTIONS 5 & 14
POST OFFICE BOX 218
AVA, MO 65608
417-683-3511
CHOUDHURY, M. HASAN GP
CHOUDHURY MEDICAL CLINIC
1330 S. HIGHWAY 63
HOUSTON, MO 65483
417-924-3281
COFFEE, AMOS L GP
P O BOX 160
WILLOW SPRINGS, MO 65793
417-469-3175
CONE, WM D P
RIVERTON RURAL BRANCH
ALTON, MO 65606
417-256-9282
COOPER, CLAUDE W GP
204 CHESTNUT
THAYER, MO 65791
417-264-3610
DELANY, CLARENCE L DR
P.O. BOX 198
WEST PLAINS, MO 65775
417-256-7898
DIMAYUGA, NESTOR G FP
MERCY HOSP TRI-COUNTY
MANSFIELD, MO 65704
417-924-3281
DOHERTY, DANIEL W OPH
1202 KENTUCKY
WEST PLAINS, MO 65775
417-256-4111
DREYER, WM F GP
102 SW OAK CREST DR
HOUSTON, MO 65483
417-967-2232

DUFF, WILLIAM M GS
1337 SOUTH HIGHWAY 63
HOUSTON, MO 65483
417-967-3365
FAIZULLAH, ADULBASHER M FP
MANSFIELD HOSP. ANNEX
MANSFIELD, MO 65704
FOWLER, MARVIN L FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111
GENTRY, MARVIN C GP
RURAL ROUTE 2 BOX 4
AVA, MO 65608
HASEK, JAMES A FP
RT 3, BOX 257-A
MOUNTAIN GROVE, MO 65711
417-926-3155
HASEK, OLIVER M GP
600 N BUSCH AVE
MOUNTAIN GROVE, MO 65711
417-926-3155
HOFFMAN, LEANNA M IM
BOX 78 SANDERS CURNER RT
WEST PLAINS, MO 65775
KANG, YOUNG M GS
P O BOX 725
214 MAIN ST
WEST PLAINS, MO 65775
417-256-8161
LANGEVIN, JACK A GS
BOX 348
WEST PLAINS, MO 65775
417-256-7900
LIONG, RICHARD C GP
606 VALLEY VISTA DR.
BENTON, AR 72015
417-967-4541
MAYUGA, LAUREANO G GS
BOX 499C
514 PINE
CABOOL, MO 65689
417-962-4255
MOORE, MICHAEL R GP
P.O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111
MORGAN, WINFREY T JR FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111
MULLEN, PATRICK D GS
MERCY PROFESSIONAL BLDG.
P. O. BOX 32
MANSFIELD, MO 65704
417-924-8774
PRESTON, BRUCE E FP
P. O. BOX 1005
WEST PLAINS, MO 65775
417-256-2111
RAY, DAVID J U
P.O. BOX A
WEST PLAINS, MO 65775
417-256-3141
SHAW, ROBERT D FP
P. O. BOX 140
WILLOW SPRINGS, MO 65793
SMITH, CLAUDE F FP
816 EAST SECOND ST
WILLOW SPRINGS, MU 65793
417-469-3116
STUBBS, THOMAS R GS
709 KENTUCKY
WEST PLAINS, MO 65775
417-256-0056
TARNEJA, KAILASH C DR
WEST PLAINS MEM HOSPITAL
P.O. BOX 1007
WEST PLAINS, MO 65775
WALKER, AMBRUSE T FP
414 S 6TH ST
THAYER, MO 65791
417-264-7121
WALL, JOE A GP
107 EAST PINE
HOUSTON, MO 65483
417-967-3323
WILES, JACK N FP
P.O. BOX 290
WEST PLAINS, MO 65775
417-256-3123

208—TRI-LAKES (Stone-Taney Counties)

BYRNE, JOHN E U
P. O. BOX 1247
BRANSON, MO 65616
417-334-1979
CHAFFIN, JERALD D FP
ROUTE 2, BOX 447
BRANSON, MO 65616
417-334-2841
CRAIN, JAMES W GS
P.O. BOX 280
BRANSON, MO 65616
GILLISPIE, ROY GP
BRANSON HGTS
BRANSON, MO 65616
417-334-3179
GILLISPIE, ROY JACK FP
DOCTORS MEDICAL BUILDING
BRANSON, MO 65616
417-334-6455
GREENBERG, BENJAMIN E R
ROUTE 2, BOX 1
FORSYTH, MO 65653
417-334-3155
HUFFMAN, THOS L FP
S R 2 BOX 447 - HWY 248
BRANSON, MO 65616
417-334-2841
HUNSLEY, PERRY U GS
427 C CAHILL ROAD
BRANSON, MO 65616
417-334-1093
O'BRIEN, ROBERT P ORS
SR 2 BOX 36
BRANSON, MO 65616
417-334-8877
REGIER, CARL M R
SKAGGS COMMUNITY HOSP
CAHILL RD
BRANSON, MO 65616
417-334-3155
SHAFFER, LYNN R FP
SR 2 BOX 458
BRANSON, MO 65616
417-334-6904
ZELLER, WILLIAM M FP
P.O. BOX 1306
BRANSON, MO 65616
417-334-6455

210—WEBSTER

BAREIS, ROBT J FP
1331 SPUR DR
MARSHFIELD, MO 65706
417-468-2339
BYERS, JOSEPH R FP
P. O. BOX 182
FORDLAND, MO 65652
417-738-2291
MACDONNELL, THOS M FP
1331 SPUR DR
MARSHFIELD, MO 65706
417-468-2339

214—WEST CENTRAL (Bates-Cass-Cedar-St. Clair-Vernon Counties)

BARONE, PAUL L P
716 S MAIN
NEVADA, MO 64772
816-667-7033
D'SUUZA, ALOYSIUS F GS
1903 E. MECHANIC
HARRISONVILLE, MU 64701
DANG, ROBERT C FP
405 CEDAR
PLEASANT HILL, MU 64080
016-907-2111
EDIGER, MARK A FP
501 S LEXINGTON
P. O. BOX F
HARRISONVILLE, MO 64701
816-884-6738
ELLETT, WM H GS
BOX 96
APPLETON CITY, MO 64724
816-476-5482
FREIN, DONALD E GP
501 S LEXINGTON
BOX F
HARRISONVILLE, MO 64701
816-884-3272
GARWOOD, JAN D FP
900 SOUTH ADAMS
NEVADA, MO 64772
417-667-6015
GEHM, LOUIS E DR
BATES COUNTY HOSP
615 NURSERY
BUTLER, MO 64730
GREENLUND, NELSON C FP
NELSON GREENLUND, INC.
RT 4, BOX 168
NEVADA, MO 64772
417-667-6015
HARMS, JAMES F GS
900 S ADAMS
NEVADA, MO 64772
HAYNIE, WILLIAM W GP
706 S. HIGH
BUTLER, MO 64730
JONES, EDWARD S FP
7531 W. 93RD ST.
OVERLAND PARK, KS 66212
JONES, ROBERT R PD
900 S ADAMS
NEVADA, MO 64772
417-667-6015
LONG, CURTIS W GP
200 W. CHESTNUT
BUTLER, MO 64730
816-679-4600
LOVINGER, WARREN C JR IM
122 W. WALNUT
NEVADA, MO 64772
417-667-8484
LUSK, CHAS A GP
911 COUNTRY CLUB
BUTLER, MO 64730
816-679-4473
MAGEE, ROBT L FP
808 S MAIN ST
ELDORADO SPRING, MO 64744
417-876-4234
MAGRUDER, LYELL M GP
NEVADA MEDICAL CENTER
NEVADA, MO 64772
417-667-6015
MICIANO, RUEL T FP
111 S LEXINGTON BOX 468
HARRISONVILLE, MO 64701
816-884-4330
MOORE, CANDICE A GP
122 W. WALNUT
NEVADA, MO 64772
MOORE, MICHAEL T DR
800 S. ASH
NEVADA, MO 64772
MORTON, WAYNE L FP
OSCEOLA, MO 64776
417-646-8153
417-646-8153
PEARSE, ROY W GP
P.O.BOX 1198
FORSYTH, MO 65653
PRICE, RICHARD C FP
HARRISONVILLE MED CTR.
SOUTHSIDE SHOPPING CTR.
HARRISONVILLE, MO 64701
816-884-6716
REED, GLEN H GP
APPLETON CITY, MO 64724
816-476-2121
816-476-2121
RINCK, EDWARD C P
900 S ASH
NEVADA, MO 64772
417-667-3142
SEEVERS, RUTH GP
OSCEOLA, MU 64776
STROBACH, ROBT L GP
706 SOUTH HIGH ST.
BUTLER, MO 64730
816-679-3118
SUWANABHAND, CHALAW IM
200 WEST CHESTNUT
BUTLER, MO 64730
816-679-3149
THIES, JEROME H FP
TRI COUNTY CLINIC
OSCEOLA, MO 64776
417-646-0153
THOMPSON, FREDERICK L FP
900 S ADAMS
NEVADA, MO 64772
417-667-6015
TORONTOW, RAPHAEL J IM
NEVADA MED CLINIC
NEVADA, MO 64772
417-667-6015
TURNER, WILLIAM A GS
NEVADA MEDICAL CLINIC
NEVADA, MO 64772
417-667-6015
VINSON, HAROLD A R
4242 S OSWEGO
TULSA, OK 74135
WHEELER, ROBT L FP
SOUTHLAND SHOPPING CTR
HARRISONVILLE, MO 64701
816-884-3244

216—ST. LOUIS UNIVERSITY

DAVID A. ABBOTT
GARY M. ALBERS
PAUL B. ANDELIN
DAVID S. ANDERSEN
RICHARD V. ANDERSON
DORIS J. ARMOUR
KELLI R. ARNTZEN
ELISABETH J. BABB
GEORGE A. BAELLA JR
MICHAEL R. BANTON
MIKE R. BARSOTTI
JEFFREY H. BARTON
ANDREW T. BAUER
ANTON G. BEFFA
TIMOTHY H. BEGER
CONRAD S. BELNAP
SUSAN S. BERDY
DOUGLAS D. BERGLUND

EDWARD J. BERNASKI
TIMOTHY P. BESSER
RICHARD A. BETHKE
IRENE G. BIEG
MICHAEL E. BLATNER
MARK W. BONNEVILLE
JOHN A. BOULLIER
MARK E. BRADLEY
DAVID A. BRADSHAW
WAYNE A. BREER
JAMES M. BRITT
RALPH P. BROADWATER
STEVEN K. BRODIE
WILLIAM A. BROMBACH
SUSAN G. BROWN
DAVID W. BRUMLEY
JOHN BRY
JAMES P. BUCHANAN
RICHARD K. BURT
GREGORY P. BURTON
JOHN C. BUSH JR
MARK A. BUSTAMANTE
ROBERT F. BUTLER
ROBERT A. BUZZELL
BERT C. CALLAHAN
CHRISTOPHER M. CALLAHAN
MIGUEL E. CANNON
DAVID A. CARRON
DANA L. CHORTKOFF
JOHN O. CHURCH
JEFFREY D. CLEMENT
DAVID L. CLINKENBEARD
MARY E. COHAN
ANGELA COLARELLI
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— Notes —

Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

* **WARNING**

This drug is not indicated for initial therapy of edema or hypertension Edema or hypertension requires therapy titrated to the individual If this combination represents the dosage so determined, its use may be more convenient in patient management Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia Pre-existing elevated serum potassium Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk If their use is essential, the patient should stop nursing. Adequate information on use in children is not available Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency Cumulative effects of the drug may develop in patients with impaired renal function Thiazides should be used with caution in patients with impaired hepatic function They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients Use cautiously in surgical patients Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide' The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide' but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth, anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances, postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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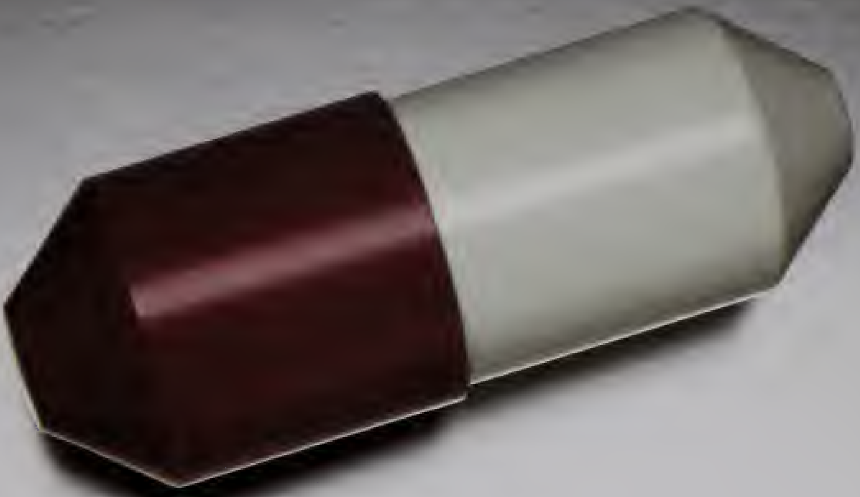

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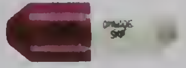

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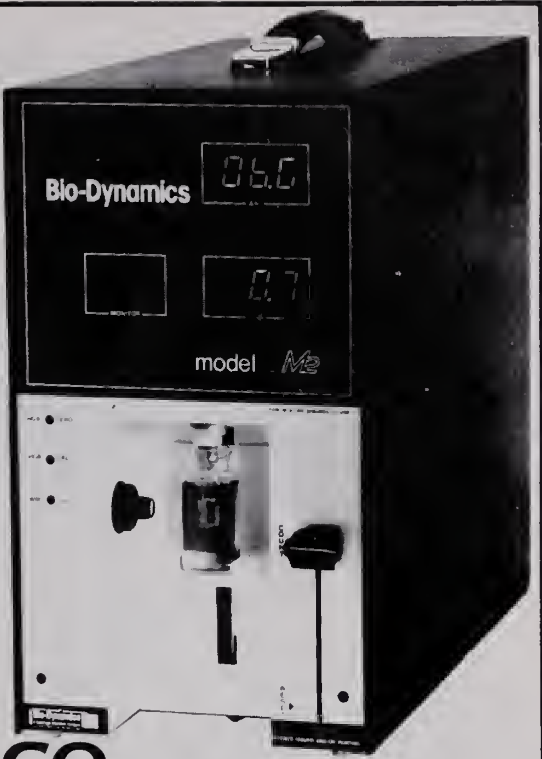

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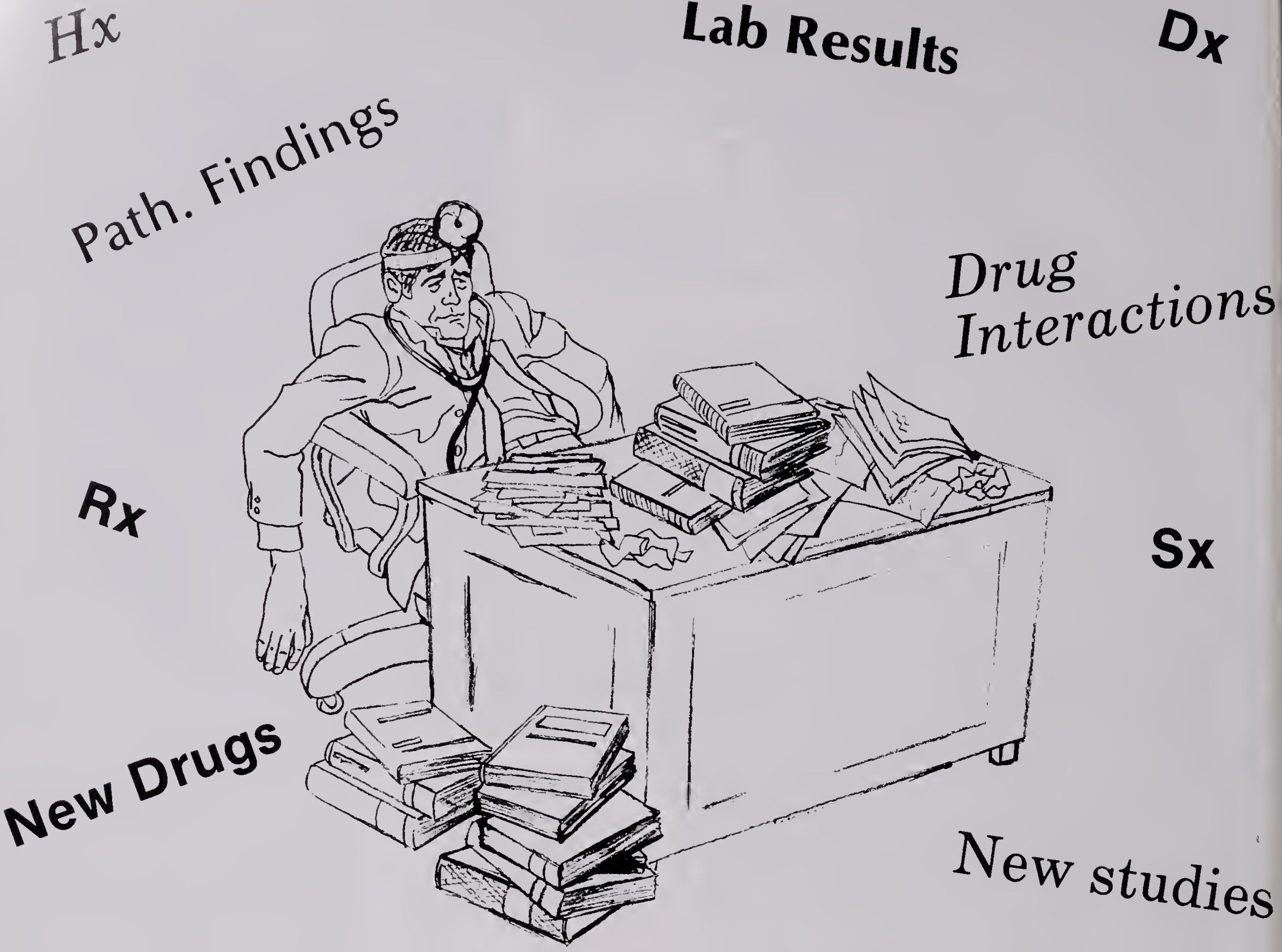

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AMA/NET

1984-1985 Policy Manual of the Missouri State Medical Association

This manual shall be a guide for MSMA members to the stand taken by the House of Delegates of the Missouri State Medical Association on issues involving Association policy.

The manual will be updated and revised according to House actions. The date in parentheses following each policy statement denotes the year it was adopted by the House.

Abortion

An abortion should be considered illegal if performed by anyone other than a licensed physician in a place other than a licensed hospital. (1970)

Acupuncture

The MSMA urges the Missouri State Board of Registration for the Healing Arts to utilize such legal and statutory powers as may be available to declare that the principles apparently involved in the practice of acupuncture and shiatsu, if found to be scientifically valid and medically beneficial would fall under the definition of the practice of medicine. (1973)

Alcoholism — Adjunctive Treatment

The MSMA supports the use of the adjunctive treatment resources of Alcoholics Anonymous, Al-Anon, Ala-Teen and the National Council of Alcoholism local affiliate by physicians in treating patients. (1979)

Alcoholism — Pharmacy Liaison

The MSMA supports a closer cooperation between physicians and pharmacists in a public education program regarding the problem of abuse of legally prescribed drugs and alcohol. The professional education of physicians and pharmacists should include courses in these areas. (1979)

Alcoholism — Public Education

A uniform policy regarding alcohol and drug abuse education in schools is supported. In-depth education should be provided to Driver Education classes regarding drug and alcohol abuse as related to traffic safety. (1979)

Amphetamines — Use

The MSMA asks its members to restrict their use of amphetamines and other stimulant drugs to the treatment of specific, well-recognized medical indications such as narcolepsy, hyperkinesia, mild depression and starter doses for obesity. (1971)

Armed Services

The MSMA encourages the Department of Defense to take steps to attract physicians to serve in the Armed Forces Reserve. Physicians should be utilized according to their capabilities and training and compensated appropriately for their time. (1979)

Board of Healing Arts

The State Board of Healing Arts should be provided with a wide range of discipline powers including requiring errant doctors to seek counseling or additional education. Also, every state should be informed when any doctor has his license suspended, revoked or is placed on probation. (1976)

The MSMA opposes any legislation which would dilute the licensing power of the State Board of Registration for the Healing Arts to license those physicians of good ethical and moral character. (1975)

Cancer — Reporting

MSMA supports efforts to require hospitals to report to the state all malignant neoplasms with the exclusion of non-melanomatous cutaneous malignancies. This statistical data is necessary to determine relationships between cancer control efforts in the state. (1982)

Certificate-of-Need

Any Certificate-of-Need law in Missouri should completely exempt private physicians and their offices from provisions of the legislation and contain a dollar limit of at least $500,000 before a Certificate is required in remodeling or constructing of health care facilities. (1976)

CHAMPUS

The MSMA recommends that CHAMPUS discontinue the use of nonphysician health care providers due to a lack of documentation of cost-effectiveness and the resulting lower standard of health care for patients. (1981)

Chemotherapeutic Costs

The MSMA should sponsor appropriate legislation that would make mandatory the offering of insurance coverage for reimbursement of chemotherapeutic agents, particularly on an outpatient basis. (1977)

Chiropractic Policy

The MSMA is unaware of any scientific evidence that proves that spinal manipulation and adjustment are appropriate treatment for such health conditions as hypertension, heart disease, stroke, cancer, diabetes and infections. Therefore, the MSMA will continue to warn the public of the health hazards of entrusting the treatment of such conditions to practitioners who maintain that all disease is caused by the misalignment of the spinal vertebrae and can be cured by manual manipulation and adjustment of the spine.

A physician may refer a patient for diagnostic or therapeutic services to another physician, licensed limited practitioner or any other licensed provider of health care services whenever the physician feels that these services will benefit the patient. As in the case with physician referrals, limited practitioner referrals should be based on their individual competence and ability to perform service to the patient.

The MSMA also supports the right of every physician to choose whom he or she will accept as patients and also exercise his or her choice by the terms of contractual agreements with other physicians, medical groups, hospitals or other institutions. (1981)

CME Accreditation

The MSMA supports the concept that continuing medical education accrediting should be conducted at the state level with the AMA as the only CME accrediting body. (1980)

Community Professional Directories

It is not unethical for a physician to authorize the listing of his name and practice in a directory for professional or lay use which is intended to list all physicians in the community on a uniform and non-discriminatory basis. The listing shall not include any self-aggrandizing statement or qualitative judgment regarding the physician's skills or competence. The *American Medical Directory* provides an example of the kind of information that may be properly listed in national as well as community directories for health service personnel. Likewise, specialities or specialty practices used in the *American Medical Directory* should set the pattern for specialty designations. (1975)

Confidentiality — Medical Records

The MSMA encourages the enactment of legislation which would fully protect the confidentiality of medical records and of professional or peer review activities which are based on review and evaluation of such records. (1978)

Confidentiality — Missouri Health Data Corporation

Missouri physicians strongly encourage the MHDC Board of Directors to retain control of their confidential information. (1982)

Cost Effectiveness

The MSMA encourages individual physicians to help moderate increases in medical care costs by avoiding over-utilization and by using appropriate restraints to keep fee increases more in line with the annual cost of living increases. The Association endorses the Voluntary Effort to restrain increases in hospital costs. (1978)

Death — Definition

A person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous respiratory and circulatory functions. In the event that artificial means of support preclude a determination that these functions have ceased, a person shall be considered dead if in the announced opinion of a physician, based on ordinary standards of medical practice, he has experienced an irreversible cessation of spontaneous brain functions. Death shall have occurred at the time when the relevant functions ceased. (1976)

Dioxin

The MSMA supports an active campaign to bring accurate information on dioxin before the public to prevent irrational reaction and possibly unjustified public fright and to prevent dissemination of possible erroneous information until such time as epidemiological studies have been completed. (1983)

Drinking Age

The MSMA supports legislation at the state and national levels to raise the legal drinking age to 21 years of age. (1984)

Drugs — Abuse of

The MSMA supports educational programs for junior high school students that will emphasize the hazards of drug abuse. (1982)

Drugs — Generic Prescribing

The MSMA opposes governmental interference into the practice of medicine through mandated generic prescribing of drugs. (1976)

Drugs — Use of Combination of

The Federal Food and Drug Administration should carefully study the prescribing habits of physicians before discontinuing a combination of drugs packaged together. (1974)

Drunk Drivers

The MSMA agrees to cooperate with the Legislature or proper agencies to remedy the dangerous problem of drunk drivers. (1974)

Education — Loans

The MSMA supports continued federal and state subsidized, low interest loan programs for medical students, with properly enforced repayment. (1982)

Education — Patient

The MSMA adopts the following guidelines for third party reimbursement for patient education:

1. The goal of patient education programs shall be to improve health and the delivery of health care services through cooperative efforts of informed patients and health professionals.
2. Patient education programs shall be provided under the guidance of an educational committee comprised of members of the health professions, and administration, and consumers.
3. Patient education committees will be responsible for the establishment, maintenance, and evaluation of all patient education programs.
4. Patient education services shall consist of planned efforts, with stated goals and objectives, based upon identifiable needs of patients and the resources of the health professionals.
5. Patient education services shall be provided under the direction of a practicing physician and a trained educator and must be appropriate to the immediate health needs of the patient.
6. Participation in such programs shall be by prescription of a practicing physician and shall be documented in the patient's chart. (1975)

Education — School Health

Factual, academically founded courses should be developed and implemented by the Missouri Department of Education to teach human physiology and pathophysiology at the elementary and secondary levels of the school system. (1974)

County medical societies are urged to work with local school districts to assist in providing comprehensive health education programs and the state colleges of Missouri are urged to prepare qualified health instructors trained to integrate health concepts into all the courses they teach. (1972)

Electroconvulsive Therapy

The Association supports the deletion of requirements that legal guardians obtain court orders authorizing electroconvulsive therapy for patients that have been declared incompetent. (1983)

Fireworks

The MSMA supports a ban on the sale of fireworks in Missouri. (1976)

Fluoridation

The MSMA, realizing the medical importance of natural occurring fluorine taken in proper concentration into the human body, recommends the adding of fluorine to all drinking water systems in Missouri in the concentration of one part per million. (1972)

Foreign Medical Graduates

MSMA Council and committees are encouraged to consult with Foreign Medical Graduate groups when subjects of interest come up. All physicians, Foreign Medical Graduates included, are encouraged to participate in their component societies, MSMA and AMA. (1982)

Handicapped

MSMA is involved in seeking positive ways to encourage training and rehabilitation for disabled persons. MSMA wants to work with existing organizations to remove physical and emotional barriers that prevent disabled people from working. (1982)

Health Systems Agencies

The MSMA supports a program of voluntary, locally based health planning designed to address particular local and regional needs and favors legislation repealing the National Health Planning Act. (1981)

Home Health Care

The concept of home health care and visiting nurses care as a proper and economical way to bring quality health care to Missouri citizens not requiring more expensive and acute care is favored by the Association. (1972)

Hospice

The MSMA supports legislation to encourage the establishment of physician-directed hospice care. (1978)

Hospital — Preadmission Certification

The MSMA will continue to oppose implementation of hospital preadmission certification. (1974)

Immunization

MSMA supports legislation which would establish strong immunization requirements for preschool children. (1982)

Insurance — Charge for Extra Claim Forms

Physicians should feel free to charge for the additional service of filing more than one insurance claim form, especially if a different claim form is required rather than a photocopy of the original claim form. (1973)

Insurance — Maternity Coverage

The MSMA supports inclusion in all insurance policies for those in childbearing years of a clause providing complete maternity coverage.

In order to provide continuity of coverage, the following eligibility period should be written into all insurance policies concerning benefits for obstetric care: "A pregnancy which begins while the insurance is in force should be covered until the termination of the puerperium and until the newborn infant is discharged from the hospital to home care." (1974)

Insurance — Psychiatric Illnesses

The MSMA recommends that the State Commissioner on Insurance requires that all health and accident insurance policies sold in Missouri provide coverage for psychiatric illnesses equivalent to benefits for other medical and physical illnesses. (1978)

Insurance — Terminology

MSMA encourages local insurance carriers to be careful about using literature containing the wording "usual, customary and reasonable" describing insurance benefits paid. This leads some patients to believe physicians' charges are "unreasonable." MSMA also encourages physicians to include in their patient information materials an explanation as to why the amount billed may sometimes be more than the insurance benefit paid. (1982)

Laboratory — Collecting Fee

The MSMA supports payment under Medicaid to the physician for his service in collecting a specimen used for tests performed in an outside laboratory. (1977)

Licensing — Felon

As a general rule, the MSMA opposes the granting of a license to practice medicine to any physician who has been convicted of a felony. (1973)

Licensing — FMGs

The MSMA endorses the policy of accepting the "Fifth Pathway" for physician licensure in Missouri. (1975)

Licensure — Federal

The MSMA opposes any moves to require Federal licensure of health manpower. (1976)

Long-Term Health Policies

The MSMA supports AMA policy which asks all physicians to voluntarily do their part in helping the country to economically recover. (1982)

Malpractice — Countersuits

Any Missouri physician found not to be negligent in a malpractice suit shall have the assistance of the MSMA in determining if there exists a reasonable basis for the physician to commence an action for malicious prosecution arising out of such case. (1976)

Mandatory Assignment

The MSMA is opposed to "mandatory assignment" under Medicare. (1984)

Medicaid Program

The MSMA no longer endorses the Title XIX Medicaid Program because of the unreasonably low level of reimbursement for physicians' services. (1978)

Medical Examiner System

The establishment of the county medical examiner system as a replacement for the county coroner system is strongly recommended. (1971)

Motorcycle Head Gear

The MSMA urges all motorcyclists to wear protective head gear (helmets) to prevent death and disability. (1977)

MSMF Loans

The Missouri State Medical Foundation requires membership in their state medical association for those medical students eligible for membership and receiving financial assistance from the Foundation. (1980)

National Health Insurance

Any system of national health insurance must be designed with the consultation and aid of practicing physicians with the welfare of the patient as the guiding principle. A mechanism should be provided so the patient realizes the value of medical services to the point of real participation in the payment for those services. (1974)

The MSMA endorses the American Medical Association's bill as the national health insurance plan best suited to maintaining the high quality of American medicine. (1976)

Nursing Education

The MSMA supports all present forms of nursing education as being essential to meeting the health care needs of the state and local community. (1980)

Nurse Practitioners

The MSMA supports the doctrine that physicians retain control of medical care and will challenge any person who is practicing medicine without a license, in the courts of law if necessary. (1978)

Optometrists — Drugs

The Association opposes the expansion of the Missouri Optometric Act which would allow the use of drugs in the practice of optometry. (1977)

Osteopaths — Association With

Medical doctors may consult or associate with Doctors of Osteopathy and participate in postgraduate education specifically designed for their needs. (1965)

Osteopaths — Membership

Both local and state medical societies may accept for full membership osteopathic physicians who are licensed to practice medicine in Missouri. (1970)

Physician Fees

The MSMA requests its members to voluntarily freeze their fees for all patients for one year. In addition, the MSMA requests its members to continue to consider the financial circumstances of each patient and to accept reduced fees when warranted. (1984)

Physician's Assistants

The MSMA opposes state licensure or certification of additional health care personnel because there is no reason to accept a second class (second level) of medicine. (1979)

Political Process

The Association encourages physicians to become "Key Contacts," thereby increasing medicine's role in influencing actions taken by the state General Assembly on issues of importance to our patients and our profession. (1983)

Primary Medical Care

Primary medical care shall be defined as only that care given by a licensed graduate of a medical or osteopathic school. (1977)

PSRO

The MSMA will work to insure that patient care is of a high quality, appropriate duration and is rendered in appropriate setting at a reasonable cost.

The MSMA supports the elimination of all government directed peer review programs, including PSRO. (1981)

The MSMA supports requiring compatible peer review of the medical services offered in public and private medical facilities and in all governmental health care facilities. (1983)

Seat Belts

The MSMA favors passage of state laws requiring use of seat belts in motor vehicles. (1974)

Second Opinions in Surgery

The MSMA, while realizing the value of consultation, opposes the concept of mandatory second opinions and supports the position that when second or more opinions are mandated by any party that this party is responsible for any consultation fee and the choice of consultant is the responsibility of the patient and/or the attending physician. (1978)

Smoking

The MSMA supports legislation directed at designating non-smoking areas in public places and prohibits smoking at all MSMA House of Delegates meetings and scientific sessions held in conjunction with these meetings. (1981)

The MSMA actively supports legislation prohibiting cigarette smoking in public indoor areas. (1983)

Third Party Reimbursement

The MSMA urges third party payers, including the Division of Family Services, to establish economic incentives to physicians to encourage more in-office care. This would include payments for professional fees, laboratory and x-ray services, supplies and other ancillary services performed in a physician's office. (1982)

The MSMA supports equal reimbursement for equal professional services provided by a physician, regardless of his geographic location. (1982)

Unpaid Accounts — Interest

It is not in the best interest of the public or the profession to charge interest on an unpaid bill or note for professional services not paid within a prescribed period of time nor is it proper to charge a patient a flat collection fee if it becomes necessary to refer the account to an agency for collection.

It is not improper, however, for a physician to add a service charge, equal to the actual cost of rebilling, on accounts not paid within a reasonable time. Patients must be notified in advance about the existence of this practice. (1975)

Utilization Review — Participation

The MSMA supports the right of individual physicians voluntarily to elect not to participate in governmental review programs which they believe conflict with the principles of good medical practice when they have no contractual or ethical obligation to such program. (1976)

Utilization Review — Reimbursement

In those hospitals which conduct utilization review of any inpatient care, compensation of physicians for such review is a legitimate expense. The cost of such review should be included in hospital rates and reimbursable costs regardless of the source of payment. (1976)

If you have questions about these or other policy matters, please contact the Missouri State Medical Association, Box 1028, Jefferson City, Mo. 65102. Tel.—(314) 636-5151.

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THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page.

2/84

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*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

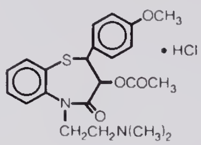
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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An added complication... in the treatment of bacterial bronchitis*

Increasing incidence of ampicillin resistance in Haemophilus influenzae
Ampicillin Resistant Haemophilus influenzae
H. influenzae
S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and S *pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions*—If an allergic reaction to Ceclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers—Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor® (cefaclor, Lilly) is administered to a nursing woman

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either S *pneumoniae* or H *influenzae* [8]

Note Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information.

References

1 Antimicrob Agents Chemother , *8* 91, 1975
2 Antimicrob Agents Chemother , *11* 470, 1977
3 Antimicrob Agents Chemother , *13* 584, 1978
4 Antimicrob Agents Chemother , *12* 490, 1977
5 Current Chemotherapy (edited by W Siegenthaler and R Luthy), II 880, Washington, D C American Society for Microbiology, 1978
6 Antimicrob Agents Chemother , *13* 861, 1978
7 Data on file, Eli Lilly and Company
8 Principles and Practice of Infectious Diseases (edited by G L Mandell, R G Douglas, Jr , and J E Bennett), p 487 New York John Wiley & Sons, 1979

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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DOUGLAS L. VAN CAMP, *Jefferson City*

Mandatory Reporting Requirements for Missouri Physicians

IT'S DIFFICULT today for physicians to keep abreast of the latest state and federal requirements for mandatory reporting. This report, outlining these requirements for Missouri physicians, was developed to aid the members of the Missouri State Medical Association with these increasingly complex and demanding rules and regulations.

QUESTIONS AND ANSWERS

What injuries, diseases, procedures, treatments or events are Missouri physicians legally required to report to governmental agencies?

Missouri physicians are required to report all births and deaths, abortions performed, post-abortion care given, suspected communicable diseases treated, treatment of suspected abused children, diagnosis of cancer cases and, finally, treatment of suspected abuse or neglect of adult residents of certain facilities.

What information should be included in such reports?

The information required for the reports varies according to the purpose for which it is to be utilized.

What are the legal consequences of failing to make such reports?

Penalties vary depending on what information is not reported.

Although the information reported is to be confidential, can such information be obtained in the course of discovery pursuant to a judicial proceeding?

Although much of the information required to be reported is classified as confidential by statute, recent case law indicates that such confidentiality may not be absolute if the information is relevant to a judicial proceeding.

DISCUSSION

Mandatory reporting requirements for Missouri physicians have several goals or purposes. These include gathering vital statistics, controlling infectious diseases to protect the public, regulating certain significant medical procedures or events, and enforcing statutory mandates. This survey will look at each reporting requirement, its goals, the information to be recorded, and the penalties for failure to comply.

I. BIRTH CERTIFICATE

The Division of Health has the duty to operate the state system of registration of births and deaths (Revised Missouri Statutes, Section 192.060 (1945). This duty includes preparing the registration forms and insuring that the law is uniformly and thoroughly enforced throughout the state.[1] The purposes of the law is to facilitate and regulate gathering vital statistics of significant medical events.

The first question is, "Who is legally required to file a birth certificate?"

If the birth occurs in an institution or en route to an institution, it is the statutory duty of the person in charge of the institution, or his designated representative, to obtain the personal data, prepare the certificate, secure the required signatures, and file the certificate with the local registrar (or elsewhere if so directed by the state registrar) within seven days.[2] Physicians or other persons in attendance are to provide the required medical information for the certificate and certify the facts of birth within five (5) days after the birth.[3]

If the birth occurs outside an institution, the new statute provides a priority list as to whom shall prepare and file the certificate.[4] The physician who attends the birth (or who is in attendance immediately after the birth) has first priority, followed by any other person in attendance at or immediately after the birth.[5] The father and mother are next in the line of priority, followed ultimately by the person in charge of the premises where the birth occurred.[6]

This statutory duty of reporting births within seven days also applies to persons who assume the custody of a live born infant of unknown parentage.[7] Missouri law also places the responsibility for reporting births (and deaths) on "every person in charge of an institution. . . ."[8] This broad language places the obligation to report all statistical data required by law on the administrators of hospitals or other institutions[9] and not on just the physicians. Thus, the list of persons responsible for reporting births includes physicians, midwives or other legally authorized persons in attendance at a birth, administrators of institutions, and parents.

The next issue is what information must the physician or other responsible party include on the birth certificate?

The scope of information required by state regulation is extensive. The regulation states:

> The birth certificate shall include the following items: registration district no.; primary registration district no.; registrar's no.; child's name; sex; date of birth; hour; hospital — name; city, town or location of birth; county of birth; certifier signature; date signed; name and title of attendant at birth if other than certifier; certifier — name and title; Missouri license no.; mailing address; registrar signature; date received by registrar; mother — maiden name; mother — age; mother — state of birth; mother's residence — state, county, city, town or location, street and number of residence, inside city limits; mother's mailing address; father — name; father — age; father — state of birth; informant signature; relation to child; race — mother; race — father; birth weight; this birth — single, twin, triplet, etc.; if not single birth — born first, second, third, etc.; was mother married; live births — now living; live births — now dead; date of last live birth; previous multiple births; other terminations — before 20 weeks; other terminations — after 20 weeks; date of last other termination; if previous stillbirth — number of weeks pregnant; education — mother; education — father; date last normal menses began; month of pregnancy prenatal care began; prenatal visits; apgar score; mother's height; mother's weight before pregnancy; cigarettes smoke per day; mother's blood tested for syphilis; prophylactic drugs used in baby's eyes; delivery spontaneous; indication if cesarean; complications of pregnancy; other illnesses or conditions affecting the pregnancy; complications of labor and/or delivery; congenital malformations or anomalies of child.[10]

What types of births are covered by this regulation?

"A live birth certificate must be filed for any child showing any evidence of life (breathing, action of heart or movement of voluntary muscles) after he/she is entirely outside of the mother, even if the cord is uncut and the placenta is still attached."[11] However, if a stillbirth (or spontaneous fetal death)[12] is involved, a stillbirth certificate must be filed within seven days after the delivery of the fetus.[13] The obligation for filing such a report rests with the physician in attendance at or immediately after delivery, if the dead fetus is delivered outside an institution.[14] If the stillbirth occurs in an institution, the person in charge of the institution, or a designated representative, is obligated to prepare and file the report.[15] "When a spontaneous fetal death . . . occurs without medical attendance at or immediately after the delivery or when inquiry is required by the medical examiner or coroner . . . ,"[16] the reporting obligation falls upon the medical examiner or coroner to investigate the cause, and prepare and file a report within seven days.[17]

What are the penalties for failure to report such events or for filing false information on such reports?

Any person who knowingly refuses to provide the information required by the new vital statistics bill,[18] or the regulations adopted under this bill, are guilty of a class A misdemeanor[19] and faces a possible prison term not exceeding one year[20] or a fine not exceeding $1,000.[21] The punishment is the same for a person who knowingly neglects or violates the statutes provisions.[22] Stiffer penalties are imposed upon person who "knowingly makes any false statement in a certificate, record, or report required by . . ."[23] the new act, and upon "[a]ny person who without lawful authority and with the intent to deceive, makes, counterfeits, alters, amends, or mutilates any certificate, record, or report required . . ."[24] by the recent statute. These violations carry a possible fine not to exceed $5,000[25] and a possible prison term not to exceed five years.[26] These stiff penalties are applicable to "[a]ny person who knowingly obtains, possesses, uses, sells, furnishes or attempts to obtain, possess, use, sell or furnish to another, for any purpose of deception, any certificate, record or report . . ."[27] required by the vital statistics bill.[28]

II. Death Certificate

As in the case of the birth certificate, the purpose of requiring death certificates is to facilitate and regulate the compilation of vital statistics. The new vital statistics bill[29] requiring death certificates states:

> A certificate of death for each death which occurs in this state shall be filed with the local registrar, or as otherwise directed by the state registrar, within five days after death and shall be registered if it has been completed and filed in accordance with this section.[30]

Note that this section of the statute is silent as to whom is responsible for the filing of such a certificate. This is set out in a later section[31] which places the filing responsibility on "[t]he funeral director or person acting as such in charge of final disposition of the dead body. . . .[32] This same person is responsible for obtaining the medical certification within 72 hours after death from ". . . the physician in charge of the patient's care for the illness, or condition which resulted in death."[33] If the physician is absent, the certificate may be completed and signed ". . . by his associate physician, the chief medical officer of the institution in which the death occurred, or the physician who performed an autopsy upon the decedent, provided such individual has access to the medical history of the case, views the deceased at or after death, and death was due to natural causes."[34] So although the physician will not be required to file the death certificate, he will be required to participate in the process by providing the necessary data and certificate, and therefore, should be alerted to this requirement.

The physician should be aware of what information is required to be reported on a death certificate as some of this information may not be obtainable from the family, and will necessarily have to be reported by the physician instead.

> The death certificate shall include the following items: registration district no.; primary registration district no.; registrar's no.; decedent — name, sex; date of death; race; age; date of birth; county of death; city, town or location of death; hospital or other institution name; state of birth; citizen of what country; marital status; surviving spouse; was decedent ever in U. S. Armed Forces; social security number; usual occupation; kind of business or industry; residence — state, county, city, town or location, street and number, inside city limits; father — name, mother — maiden name; informant — name; mailing address; burial, cremation, removal, other; cemetery or crematory — name; location; funeral service licensee signature; name of facility; address of facility; registrar signature; date received by registrar; certifier signature and title; date signed; hour of death; name of attending physician if other than certifier; coroner or medical examiner signature and title; date signed; hour of death; pronounced dead (date); pronounced dead (hour); name and address of certifier (physician, medical examiner or coroner); causes of death; interval between onset and death; other significant conditions contributing to death; autopsy; was case referred to medical examiner or coroner; acc., suicide, hom., undet., or pending invest.; date of injury; hour of injury; describe how injury occurred, injury at work; place of injury; location; if deceased was female was there a pregnancy in last 90 days."[35]

Based on this listing, physicians attending a death should record at the minimum (for use later in filling out portions of the death certificate), the following:

1. The hour of death
2. The date of pronouncing dead
3. The hour of pronouncing dead
4. The cause of death
5. The interval between onset and death
6. Any other significant contributions contributing to death
7. Results of an autopsy if performed
8. Whether the case was referred to a medical examiner or coroner
9. Whether an injury was involved, the date of injury, hour of injury, how injury occurred, where it occurred, and location of the injury
10. Whether the deceased was a female, was there a pregnancy in the last 90 days, and
11. County of death and city, town, or location of death, if known to physician.

These items of information are the ones which the physician may be called upon to report to the person responsible for filing the death certificate. Presumably, the family of the deceased could provide the other information called for by 13 CSR 50-150.050(1), but in some situations where no family survives the deceased, the physician may have other information in his files or personal memory from dealing with the deceased. The listing above cites the items of information which may be known only by the physician or for which he may be called on to divulge his knowledge thereof. The penalties regarding death certificates are the same as those mentioned previously for birth certificates.

III. Child Abuse

The legislature, in an effort to enforce its statutory mandate to prevent child abuse, imposed a requirement that "[w]hen any physician, medical examiner, coroner, dentist, chiropractor, optometrist, podiatrist, resident, intern, nurse, hospital and clinic personnel (engaged in examinations, care or treatment of persons), and other health practitioners, psychologist, [or] mental health professional"[36] . . . "has reasonable cause to suspect that a child has been or may be subjected to abuse or neglect or observes a child being subjected to conditions or circumstances which would reasonably result in abuse or neglect, he shall immediately report or cause a report to be made to the division. . . ."[37] The physician or other medical personnel does not necessarily need to personally report such suspected abuse to the division but can report to the person in charge, or his designee, who shall then become accountable for immediately making or causing such report to be made to the division.[38]

The initial issue becomes what constitutes child abuse or neglect?

The statute defines a child as "any person under 18 years of age."[39] Neglect is defined as "failure to provide, by those responsible for the custody and control of the child, the proper or necessary support, education as required by law, or medical, surgical, or any other care necessary for his well being. . . ."[40] An apparent exception is the child who does not obtain medical treatment because of the legitimate practice of the religious beliefs of the child's parents or legal guardian. This shall not be considered abused or neglected for that reason alone.[41]

Abuse is defined as "any physical injury, sexual abuse, or emotional abuse inflicted on a child other than by accidental means by those responsible for his care, custody, and control except that discipline including spanking, administered in a reasonable manner shall not be construed to be abuse. . . ."[42] This law also applies to reporting deaths which a person (who is required to report abuse pursuant to the statute) suspects is the result of abuse or neglect.[43]

The duty of the child's attending physician does not cease after making the initial report of abuse or neglect. A person who is required to report abuse in his official capacity as a staff member of a medical institution must notify his superior, who in turn is required to take or cause to be taken color photographs of the physical trauma and x-rays (if medically indicated).[44]

Although not required, a physician who has reasonable cause to believe (1) that a child is suffering from illness or injury or is in danger of personal harm because of his surroundings, and (2) that a case of child abuse or neglect exists, may request that a juvenile officer take the child into protective custody.[45] In more severe cases where the physician (or law enforcement officer) has reasonable cause to believe (1) that a child is in imminent danger of suffering serious physical harm or threat to life because of abuse or neglect, and (2) that the harm or threat to life may occur before a temporary protective custody order can be issued or before a juvenile officer could take protective custody of the child, the physician may take or retain temporary custody of the child without the consent of the child's parent or guardian.[46] This temporary protective custody includes temporary placement within a hospital, medical facility, emergency foster care facility, or such other suitable placement as the court may direct.[47] However, the abused or neglected child may not be held in temporary custody in a "secure detention facility."[48] Furthermore, such temporary custody cannot exceed 24 hours unless authorized by an order of the juvenile court.[49]

Reports of abuse or neglect are to be made immediately[50] and may be made orally to the division by telephone or otherwise.[51] The statewide toll free number to call is 1-800-392-3738. The person reporting the abuse or neglect should be prepared to provide the following information:

1. The names and addresses of the child and his parents or other persons responsible for his care
2. The child's age, sex, and race
3. The nature and extent of the child's injuries, abuse or neglect (including any evidence of previous injuries, abuse, or neglect to the child or his siblings)
4. The name, age, and address of the person responsible for the injuries, abuse, or neglect (if known)
5. Family composition
6. Source of the report
7. Name and address of the person making the report, his occupation, and where he can be reached
8. The actions taken by the person reporting, such as the taking of color photographs or X-rays, removal or keeping of the child, or notifying the coroner or medical examiner, and
9. Other information which may be helpful in fulfilling the purpose of the statute.[52]

What is the possible exposure to liability for a person who reports or fails to report suspected abuse or neglect pursuant to this statute?

First of all, the statutory scheme clearly sets forth that any person, official, or institution who complies with the statutes "shall have immunity from any liability, civil or criminal, that otherwise might result by reason of such actions."[53] This immunity does not apply to persons who intentionally file a false report.[54] Furthermore, the same immunity shall apply to participation in any judicial proceeding resulting from the report.[55] Secondly, the person who fails to report in violation of these statutes is guilty of a class A misdemeanor.[56] The penalties for class A misdemeanors are imprisonment not to exceed one year and a fine not to exceed $1,000.[57] Lastly, it has been held that even if a person willfully refuses to perform this duty mandated by statute, it does not create a cause of action in favor of individuals, but only creates a duty to the public.[58] This would indicate that physicians cannot be sued by an individual person who claims to have a cause of action because the physician failed to report that person's case of abuse or neglect to the proper authorities.

All reports and records which are made pursuant to this statutory section are to be confidential.[59] However, the confidentiality of such records is subject to exceptions that include the releasing of information to a physician who has before him a child who he reasonably believes may be abused or neglected, and to a grand jury, juvenile officer, juvenile court or other court conducting abuse, neglect or child protective proceedings.[60]

IV. Adult Abuse

When any physician, dentist, chiropractor, optometrist, podiatrist, intern, nurse, medical examiner, psychologist, pharmacist, physical therapist, facility administrator, nurses aide or orderly in a facility[61] . . . has reasonable cause to believe that a resident of a facility has been abused or neglected, he or she is required by statute to immediately report or cause a report to be made to the Department of Social Services.[62] By the terms of the statute, it would appear that this reporting requirement applies only to abuse or neglect of "a resident of a facility" and not to the general public. Hence, the purpose of this statute appears to be to stop any abuse or neglect of residents in facilities within our state.

The information to be included in such a report is listed as follows:

1. The name and address of the facility
2. The name of the resident
3. Information regarding the nature of the abuse or neglect
4. The name of the complainant, and
5. Any other information which might be helpful in an investigation.[63]

The statute states that a person who is required to report such abuse or neglect, and fails to do so within a reasonable time, is guilty of an infraction.[64] The statutory punishment for an infraction is a fine not to exceed $200.

The reports filed pursuant to this law are to be confidential and shall not be deemed public record. Furthermore, "[t]he name of the complainant or any person mentioned in the reports shall not be disclosed unless such complainant or person specifically requests such disclosure or unless a judicial proceeding results therefrom."[66] A person filing such a report also enjoys immunity from any civil or criminal liability which might result from making such a report, "unless that person acted in bad faith or with malicious purpose."[67]

V. Abortion

Physicians who are involved in an abortion procedure, or post-abortion care are required to file reports with the Division of Health within 45 days of the date of the procedure performed or care given.[68] The attending physician is required to complete an individual abortion report for each abortion performed or induced upon a woman.[69] Any physician who provides any postabortion care must also complete an "individual complication report."[70]

The physician's report of induced termination of pregnancy is to include the following items:

1. Name of the abortion facility or hospital
2. The city, town or location of the abortion facility or hospital
3. The county where the abortion facility or hospital is located
4. The patient identification number
5. The age of patient
6. The marital status of patient
7. The date of pregnancy termination
8. The residence of patient, including city or town (and whether patient resides within the city limits or not), county, state, and zip code
9. The patient's race
10. The patient's education
11. The patient's previous pregnancy history including:
    a. Number of life births now living;
    b. Number of live births now dead;
    c. Number of induced terminations (including a description of the types of termination procedures used and the complications of pregnancy termination)
12. The date that the last normal menses began
13. The physician's estimate of gestation
14. The signature of the attending physician (along with his Missouri license number), and
15. The name of the person completing the report.[71]

The amount of confidentiality accorded these reports is somewhat limited since the statute requires that a copy of the abortion report is to be made a part of the medical record of the patient of the facility or hospital in which the abortion was performed.[72] Therefore, such reports will enjoy the confidentiality accorded medical records. There is no such copy requirement to the "individual complication reports," so standard rules of statutory construction would lead to the conclusion that such reports need not be included in the medical record of the patient at the facility or hospital where the abortion was performed.

The Division of Health is to provide forms for the "individual complication reports" for post-abortion care. On these forms the following items will need to be identified:

1. The patient identification number
2. The patient's date of birth
3. The residence of patient (including city, county, and state)
4. The date of abortion
5. The name and address of abortion facility or hospital
6. The name and address of facility reporting complication
7. Whether or not the patient was previously seen at another facility for postabortion care (and if so, the name and address of such other facility which treated the patient)
8. The complications
9. The result of such complications
10. The date of the postabortion care, and
11. The signature of the physician providing the postabortion care.[73]

The purpose behind this reporting requirement is the gathering and evaluation of the data collected through these reports. The results of this collection and evaluation is then published annually in a statistical report based on the data collected from abortions performed in the prior calendar year.[74]

There is one further requirement imposed on physicians performing abortions in Missouri. The relevant statute states:

> A representative sample of tissue removed at the time of abortion shall be submitted to a board eligible or certified pathologist, who shall file a copy of the tissue report with the state division of health, and who shall provide a copy of the report to the abortion facility or hospital in which the abortion was performed or induced and the pathologist's report shall be made a part of the patient's permanent record.[75]

This particular statute, along with other Missouri statutory provisions concerning abortion, has been the subject of much litigation recently as to its constitutionality. On June 15, 1983, the United States Supreme Court upheld this statute[76] as being constitutional[77] so that physicians in Missouri are still bound to fulfill its mandates.

A person who fails to perform any action required by this statutory chapter is guilty of a class A misdemeanor.[78] If convicted, a physician could face fines up to $1,000[79] and up to one year of imprisonment.[80]

VI. Communicable Diseases

The Division of Health is given the general duty and responsibility of safeguarding the health of the people of Missouri pursuant to Revised Missouri Statutes, Section 192.020 (1951). As a part of this responsibility, it is to designate which diseases are infectious, contagious, communicable or dangerous in their nature and "make and enforce adequate orders, findings, rules and regulations to prevent the spread of such diseases and to determine the prevalence of such diseases within the state."[81] The result of this statutory mandate can be seen in 13 CSR 50-101.010 and the regulations which follow it in sequence. It defines a communicable disease as:

> "an illness due to an infectious agent or its toxic products and transmitted, directly or indirectly, to a susceptible host from an infected person, animal or arthropod or through the agency of an intermediate host or vector or through the inanimate environment."[82]

The Division of Health has divided communicable diseases into two categories. The Category I diseases are required to be reported to the Division of Health or to the local health authorities within 24 hours of suspected diagnosis by telephone, telegraph or other rapid communication. This initial report is to be followed by a written report within seven days.[83] Diseases which are listed under Category I are as follows:

1. Animal bites
2. Botulism
3. Diphtheria
4. Epidemics (foodborne, toxic substances and others)
5. Gonorrhea
6. Measles
7. Meningitis and Hemophilus influenzae
8. Meningitis and Meningococcal

9. Poliomyelitis
10. Rabies
11. Rubella
12. Syphilis,[84] and
13. Typhoid Fever[85]

The same rapid reporting requirements which apply to all Category I diseases likewise apply to the occurrence of epidemics or outbreaks of any illness or disease which may be of public health concern,[86] and suspected or verified diagnosis of diseases and illnesses resulting from exposure to a toxic substance or to a radioactive substance that are indicative of an occupational health, public health or environmental problem.[87] Diseases or illnesses which come under this latter group include, but are not limited to the following:

1. Occupational lung disease including silicosis, asbestosis and byssinosis
2. Occupationally-related cancers including mesothelioma, and
3. Illnesses or diseases related to pesticide poisoning.[88]

The reporting requirements for Category II diseases state that such diseases are to be reported to the Division of Health or to the local health authority in writing within seven days of its suspected or established diagnosis. The following are listed as Category II diseases:

1. Amebiasis
2. Anthrax
3. Brucellosis
4. Campylobacter infections
5. Chancroid
6. Chickenpox
7. Cholera
8. Encephalitis, infectious
9. Encephalitis, viral
10. Genital herpes
11. Giardiasis
12. Granuloma inguinale
13. Hepatitis A, B and non-A, non-B
14. Histoplasmosis outbreaks
15. Influenza outbreaks
16. Kawasaki disease
17. Legionellosis
18. Leptospirosis
19. Lymphogranuloma venereum
20. Malaria
21. Meningitis, aseptic
22. Mumps
23. Nongonococcal urethritis
24. Nosocomial outbreaks
25. Pediculosis outbreaks
26. Pertussis
27. Plague
28. Psittacosis
29. Reye's syndrome
30. Rocky Mountain spotted fever
31. Salmonella infections
32. Scabies outbreaks
33. Shigella infections
34. Tetanus
35. Toxic shock syndrome
36. Trichinosis
37. Tuberculosis, and
38. Tularemia[89]

The responsibility for making such reports rests with the attending physician unless he authorizes an administrator, superintendent, or other person in charge of the appropriate hospital, clinic, or institution in writing to submit such reports on patients attended by him.[90] The ensuing information is to be included in such reports:

1. The patient's name, address, age, sex, and race
2. The name of the disease or condition diagnosed or suspected
3. The date of the onset of the illness
4. Whether the patient was hospitalized, and if so, the name and address of the hospital
5. The name and address of the attending physician; and
6. Any appropriate laboratory results[91]

When reporting an epidemic in a report, the physician should include:

1. The diagnosis of principal symptoms
2. The approximate number of cases
3. The local health authority jurisdiction within which the cases occurred, and
4. The name and address of the reporting physician[92]

Any person, including physicians, who knowingly conceals a case of contagious, infectious, or communicable disease shall be deemed guilty of a class A misdemeanor.[93] As stated earlier in this article, the penalties for such misdemeanors include a fine not to exceed $1,000, and/or imprisonment for a term not to exceed one year.[94]

VII. Violent Injuries or Attacks

It is commonly believed that physicians are required to report gunshot or stab wounds to the local law enforcement agencies. However, research reveals no such duty imposed on physicians by state statute or state regulation, although this was often the actual practice based on the cooperative relationships established locally between hospital and law enforcement institutions. Physicians should inquire with their local city and county prosecutors to determine if local ordinances and regulations require such a practice, or if such measures are merely voluntary and intended for the public well-being.

VIII. Cancer

Although the reporting of cancer cases is not legally required in Missouri at the present time, there is a recently published proposed rule which would impose such a requirement.[95] The proposed rule places the responsibility for the reporting of cancer cases on the chief administrative officer of every hospital.[96] Every case of cancer is to be reported, with the exception of nonmelanomatous skin cancers,[97] to the director of the Division of Health using a paper report format provided by the state registry.[98] The report is based upon information provided by the attending physician and must ". . . be made within four (4) months after the diagnosis or within four (4) months after the first course of therapy administered at the reporting hospital."[99] The proposed rule only obligates the physician or hospital to report "[a]ll patients seen, diagnosed or treated for *the first time* . . . after the effective date of this rule — on an inpatient basis. . . ."[100] Subsequent reports on such patients are not mandated unless a new cancer is diagnosed.[101]

This proposed rule sets forth the minimum information that should be included in each report.[102] It must include the following information:

> . . . assigned hospital code number; patient's name; patient's medical record number; patient's race and sex; residence at birth; residence at diagnosis; primary past residence; birth date; Social Security number; primary anatomic site written and ICD-O[103] code; histologic type written and ICD-O code; basis of diagnosis; date of diagnosis; code for stage (using SEER system in *Summary Staging Guide for the Cancer Surveillance, Epidemiology and End Results Reporting (SEER) Program,* National Institutes of Health Publication No. 81-2313, January 1981) and brief written description; method of tumor-directed treatment; personal history of cancer; vital status code (alive/dead; with/without cancer); family history of cancer including relationship to patient and ICD-O site code; any unusual toxic exposure; number of pregnancies or live births for women; level of alcohol use; level of tobacco use; primary lifetime occupation with number of years employed in the primary lifetime occupation; and type of industry.[104]

Although this rule is only being proposed as of the time of writing this report, it may have become an effective rule by the time this article is published. The final approved version of the rule may include modifications adopted because of comments and objections made during the 30-day period following the initial publication of the proposed rule (June 1, 1984). Physicians and hospital administrators are advised to consult the final version of the rule which is to be codified as 13 CSR 50-115.010.[105]

IX. Confidentiality v. Judicial Discovery

Although most of the information required to be reported to governmental agencies pursuant to statutory or regulatory authority is classified as confidential and not a part of the public record, recent case law in Missouri indicates that few statutes prohibiting disclosure of information obtained by the state will be interpreted to limit pre-trial discovery in judicial proceedings.[106] The typical judicial attitude expressed when faced with these problems is that "public policies underlying state confidentiality statutes do not justify withholding information from judicial proceedings."[107]

Two important policies conflict when a party to a civil suit wants discovery of confidential documents from the state; the vital public interest in promoting exact and evenhanded administration of justice which is furthered by allowing the broadest possible scope of discovery, versus the strong public interest in maintaining the confidentiality of certain state documents which is discouraged if no restrictions are placed on public access to such documents. The purpose of maintaining this confidentiality is to facilitate ready and full disclosure of personal information to the state in order to make certain state programs more effective.

When the courts of our state have been faced with these conflicting policies, their response has usually been that statutes which restrict access to information in possession of the state should not be allowed to impede production of evidence in judicial proceedings.[108]

> When possible, statutory language has been interpreted to permit disclosure. With less flexible wording, courts have concluded that the legislature intended to prohibit only voluntary disclosure. In the extreme case of an inequivocal statutory ban, the Missouri Supreme Court has indicated it will invoke the constitution to obtain evidence.

Underlying all of these decisions is a determination that benefits obtained by compelling production of confidential documents in judicial proceedings outweigh any detrimental effects disclosure might have on personal privacy or honest report to the state.[109]

Therefore, any records in which the state or local governmental agency claims confidentiality may enjoy such confidentiality with regards to personal requests for production by private citizens, but may not be protected from compelled production pursuant to a judicial proceeding.

CONCLUSION

Physicians are required to report births, deaths, abortions performed, postabortion care, treatment of suspected abuse or neglect of children, treatment of suspected abuse or neglect of residents in facilities, and treatment or diagnosis of certain communicable diseases or epidemics. The information to be included in such reports varies, and physicians should refer to the appropriate statute, regulation, or section of this article in order to ascertain what is required. Legal penalties for failure to make such mandatory reports are general fines not to exceed $1,000 and/or imprisonment not to exceed one year. It should be noted that these are only the legal consequences faced by the physician. Another reprimand or action may be initiated by the various professional regulating bodies against the physician involved. Although confidentiality of information obtained through mandatory reporting is provided by various statutes and regulations, courts will in most instances be able to compel production of records which are necessary or which will provide useful and relevant information to a judicial proceeding.

REFERENCES

1. Section 19.2060 RSMo 1945.
2. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.085.1 and 193.085.2 RSMo. See also 13 CSR 50-150.040(1).
3. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.085.2 RSMo.
4. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.085.3 RSMo.
5. *Id.*
6. *Id.* See also 13 CSR 50-150.040(2).
7. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.095.1.
8. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.275.1.
9. The statute specifically mentions prisons as indicated by the statute's language ". . . concerning each person admitted *or confined* to such institution. . . ." Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.275.1 RSMo.
10. 13 CSR 59-150.040(3). See also 13 CSR 50-107.010.
11. 13 CSR 50-150.040(4).
12. This is the term used in the new vital statistics law. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.165 RSMo.
13. *Id.* The statute requires such reporting for "[e]ach spontaneous fetal death of twenty completed weeks gestation or more, calculated from the date last menstrual period began to the date of delivery, or a weight of three hundred fifty grams or more . . ." *Id.*
14. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.165.3 RSMo.
15. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.165.2 RSMo.
16. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.165.4 RSMo.
17. *Id.*
18. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984).
19. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.6 RSMo.
20. Section 558.011.1(5) RSMo 1982.
21. Section 560.016.1(1) RSMo 1979.
22. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.7 RSMo.
23. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.1 RSMo.
24. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.2 RSMo.
25. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.1 RSMo. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.2 RSMo. See also Section 560.011.1(a) RSMo 1979.
26. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.1 RSMo. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.2 RSMo. See also Section 558.011.1(4) RSMo 1982.
27. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.315.3 RSMo. See also Section 558.011.1(4) RSMo 1982.
28. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984).
29. *Id.*
30. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.145.1 RSMo.
31. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.145.4 RSMo.
32. *Id.*
33. *Id.* See also Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.145.5 RSMo.
34. Senate Bill No. 574, 82nd General Assembly (effective date, August 13, 1984); to be codified as Section 193.145.5 RSMo.
35. 13 CSR 50-150.050(1).
36. This list is not complete but reflects those persons in the medical field who might be affected.
37. Section 210.115.1 RSMo 1982.
38. Section 210.115.2 RSMo 1982.
39. Section 210.110.2 RSMo 1982.
40. Section 210.110.5 RSMo 1982.
41. Section 210.115.3 RSMo 1982.
42. Section 210.110.2 RSMo 1982.
43. Section 210.115.5 RSMo 1982.
44. Section 210.120 RSMo 1975.
45. Section 210.125.1 RSMo 1982.
46. Section 210.125.2 RSMo 1982.
47. Section 210.125.5 RSMo 1982.
48. *Id.*
49. Section 210.125.4 RSMo 1982.
50. Section 210.115.1 RSMo 1982. It should be noted that sexual abuse or molestation of a child under 18 years of age must be turned in to the division within 24 hours. See Section 210.130.3 RSMo 1982.
51. Section 210.130.1 RSMo 1982.
52. Section 210.130.2 RSMo 1982.
53. Section 210.135 RSMo 1982.
54. *Id.*
55. *Id.*
56. Section 210.165 RSMo 1982.
57. Section 560.016 RSMo 1977; Section 558.011 RSMo 1979.
58. *Nelson v. Freeman*, 537 F.Supp. 602 (D.C. 1982).
59. Section 210.150.1 RSMo 1982.
60. *Id.*
61. This is not a complete listing of those required to report adult abuse, but is intended to reflect the members of the medical community who would be affected by this statute.
62. Section 198.070.1 RSMo 1979.
63. Section 198.070.2 RSMo 1979.
64. Section 198.070.3 RSMo 1979.
65. Section 560.016.1(4) RSMo 1979.
66. Section 198.070.7 RSMo 1979.
67. Section 198.070.8 RSMo 1979.
68. Section 188.052 RSMo 1979.
69. Section 188.052.1 RSMo 1979.
70. Section 188.052.2 RSMo 1979.
71. 13 CSR 50-151.010.
72. Section 188.052.4 RSMo 1979.
73. 13 CSR 50-151.020. See also Section 188.052.2 RSMo 1979.
74. Section 188.052.5 RSMo 1979.
75. Section 188.047 RSMo 1979.
76. *Id.*

77. *Planned Parenthood Association of Kansas City, Missouri, Inc., et al. v. John Ashcroft, et al.*, _____ U. S. _____, 76 L.Ed. 2d 733, 103 S.Ct. 2517 (1983).

78. Section 188.075 RSMo 1979.

79. Section 560.016.1 RSMo 1979.

80. Section 558.011.1 RSMo 1979.

81. Section 192.020 RSMo 1951.

82. 13 CSR 50-101.010(4).

83. 13 CSR 50-101.020(1). Telephone reports can be phoned in to the state by calling 1-800-392-0272.

84. Physicians should also take note of Section 210.030 RSMo 1941, which requires that every licensed physician, midwife, registered nurse and all persons who undertake the obstetrical and gynecological care of pregnant women within our state must, *if* the woman consents, take a sample of venous blood of such woman within twenty days of the first examination. This sample is to be subjected to approved and standard serological test for syphilis. Pursuant to Section 210.040 RSMo 1941, if such a test is positive or doubtfully positive for syphilis, the physician or other relevant medical personnel is to fill out a furnished form and send it to the county or municipal department of health of the county or city in which the pregnant woman is residing.

85. 13 CSR 50-101.020(1).

86. 13 CSR 50-101.020(4).

87. 13 CSR 50-101.020(3).

88. *Id.*

89. 13 CSR 50-101.020(2).

90. 13 CSR 50-101.020(5)(A).

91. 13 CSR 50-101.020(5). Such reports are to be considered confidential records and are not public records. 13 CSR 50-101.020(8).

92. 13 CSR 50-101.020(5)(B).

93. Section 192.320 RSMo 1978.

94. See Section 560.016.1 RSMo 1979; and Section 558.011.1 RSMo 1979.

95. 9 Mo. Reg. 987 (1984) (to be codified as 13 CSR 50-115.010).

96. 9 Mo. Reg. 987 (1984) [to be codified as 13 CSR 50-115.010(2)].

97. These are defined as "cutaneous, malignant basal and squamous all neoplasms." 9 Mo. Reg. 987 (1984) [to be codified as 13 CSR 50-115.010(1)(B)].

98. 9 Mo. Reg. 987, 988 (1984) [to be codified as 13 CSR 50-115.010(2)].

99. *Id.*

100. 9 Mo. Reg. 987, 988 (1984) [to be codified as 13 CSR 50-115.010(3)].

101. *Id.*

102. 9 Mo. Reg. 987, 988 (1984) [to be codified as 13 CSR 50-115.010(4)].

103. This abbreviation stands for the 1976 edition *International Classification of Diseases for Oncology*, published by the World Health Organization. 9 Mo. Reg. 987 (1984) [to be codified as 13 CSR 50-115.010(1)].

104. 9 Mo. Reg. 987, 988 (1984) [to be codified as 13 CSR 50-115.010(4)].

105. 9 Mo. Reg. 987 (1984).

106. 46 Mo. L. Rev. 844 (1981).

107. *Id.* at 846 citing *State ex rel. Ross v. Sevier*, 344 Mo. 977, 984, 69 S.W.2d 662, 665 (1934); *In re French*, 315 Mo. 75, 84, 285 S.W.2d 513, 516 (En Banc 1926); *In re Millspaugh*, 307 Mo. 185, 193, 270 S.W. 110, 112 (En Banc 1925); *Jones v. Giannola*, 252 S.W.2d 660, 663 (Mo. App., E.D. 1952). See also *State ex rel. Von Hoffman Press, Inc. v. Saitz*, 607 S.W.2d 219 (Mo. App., E.D. 1980).

108. *Id.*

109. 46 Mo. L. Rev. 844, 852-853 (1981).

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Missouri Voluntary Health Agencies and Organizations

In some instances, patients of MSMA members are eligible to receive assistance from various Voluntary Health Organizations in the state.

Assistance may be in the form of free or subsidized special equipment, rehabilitation training, counseling, specialized care and information and many other areas.

In an effort to assist MSMA members in attaining assistance for their patients, the following annually updated list of Voluntary Health Organizations has been compiled. In some cases, a statewide organization is listed. In instances in which an organization is limited to a certain portion of the state, several organizations may be listed under one heading.

ARTHRITIS

Arthritis Foundation, Eastern Missouri Chapter
4144 Lindell Blvd., St. Louis 63108
(314) 533-1324

Arthritis Foundation, Greater Kansas City-Western Missouri Chapter
8301 State Line #117, Kansas City 64114
(816) 361-7002

1. Literature for arthritis patients.
2. Public and professional education programs.
3. Newsletter.
4. Patient clubs.
5. Self-help courses.

Arthritis Institute of Greater Kansas City
6301 Rockhill Rd., Suite 102, Kansas City 64131
(816) 444-5899

1. Literature for arthritis patients.
2. Public and professional education programs.
3. Loan closet (canes, crutches, walkers, etc.).
4. Free transportation.

BIRTH DEFECTS

March of Dimes Birth Defects Foundation
1310 Bus. 63 South, Columbia 65201
(314) 449-0573

1. Perinatal seminars for physicians and nurses held three times per month across the state.
2. Perinatal reprint series, articles related to the improvement of the outcome of pregnancy.
3. Limited patient aid support on chapter level.
4. Educational materials and audio-visuals for distribution through hospitals, clinics and offices to community and professionals.
5. Computer information service for providing physicians with diagnostic information.

BLOOD TRANSFUSION AND TISSUE BANK

Missouri/Illinois Regional Blood Services
4050 Lindell, St. Louis 63108

1. Provides blood, blood components, blood derivatives including serum albumin, antihemophilic factor, immune serum globulin to the eastern half of Missouri.
2. Provides medical and laboratory consultative services, therapeutic apheresis and transfusion related research in broad areas.
3. Recruits tissues and organs for transplantation and provides bone, nerve, and corneas for clinical use.
4. Provides accredited immunohematology reference and histocompatibility laboratory services.
5. Provides paternity testing.

CANCER

American Cancer Society, Missouri Division, Inc.
P.O. Box 1066, 3322 American Ave., Jefferson City 65102
(314) 893-4800

1. Trained volunteer visitation of mastectomy, ostomy, and laryngectomy patients (with attending physician's permission).
2. Loan equipment — hospital beds, wheelchairs, commodes, chairs, walkers, etc.
3. Non-sterile cancer dressings.
4. Limited transportation services to and from treatment centers.
5. Limited assistance in the purchase of ostomy supplies.
6. Limited payment for pain medication for cancer patients.
7. Educational materials and audiovisuals on cancer prevention, diagnosis and treatment for public and health professionals.
8. Seminars for health professionals to update their knowledge and role in cancer prevention, diagnosis and treatment.
9. Patient education and support groups.
10. Public Education:
    a. Programs for adults carried out in group settings or one-to-one basis, involving two-way communication and interaction through the work place, clubs, and organizations, homes and neighborhood centers, and other health agencies.
    b. Standard education programs for adults on

one of the six priority sites of cancer (lung, colorectal, breast, uterine, oral, and skin) and assistance arranging programs on smoking cessation and breast self-examination.
c. Youth program organized through schools (K-12) on health and science education and health behavior as it relates to cancer.

Cerebral Palsy

United Cerebral Palsy Association of Missouri, Inc.
P.O. Box 611, Columbia 65201
(314) 449-2934

1. Educational outreach to teach people about Cerebral Palsy and other disabilities.
2. Camping program held at Wonderland Camp at the Lake of the Ozarks for people with disabilities of all ages.
3. Governmental affairs to advocate for issues that will improve the quality of living for people with Cerebral Palsy and other developmental disabilities.
4. Resource/referral to guide people to services and activities needed.
5. Financial assistance for those with Cerebral Palsy and in financial need. (Only when all other financial resources have been exhausted.)

Services are provided to people with disabilities through eight affiliates. Services may include:
Developmental Training
Diagnosis and Evaluation
Social Services
Special Education
Communication Skills
Adult Day Care
Recreational and Social Activities
Respite Care
Workshop Activities

Crippled Children

Missouri Easter Seal Society, Inc.
10000 Watson Rd., St. Louis 63126
(314) 821-6001

1. Coordinates provision of services to physically handicapped through Regional Offices.
2. Information and counseling on employment of resources.
3. Variety of services including equipment and appliances, preschool programs, camping and recreation, in some areas.
4. Financial assistance for purchase of equipment and therapy on casework basis.

Cystic Fibrosis

Cystic Fibrosis Foundation, Gateway Chapter
7730 Carondelet, St. Louis 63105
(314) 721-2490

Cystic Fibrosis Foundation, Heart of America Chapter
7920 Ward Parkway, Room 206, Kansas City 64114
(816) 363-5636

1. Sweat testing and evaluation at Cystic Fibrosis Centers located in St. Louis, Kansas City and Columbia.
2. Referral for drugs, laboratory work, x-rays, inhalation equipment and hospitalization.

Diabetes

American Diabetes Association, Heart of America Affiliate
616 East 63rd, Kansas City 64110
(816) 361-3361

American Diabetes Association, Missouri Regional Affiliate
Box 11, Columbia 65205-0011
(314) 443-8611

American Diabetes Association, Greater St. Louis Affiliate
1790 S. Brentwood Blvd., St. Louis 63144
(314) 968-3196

1. Patient education classes and support groups.
2. Professional and allied health education.
3. Summer camp for diabetic children.
4. Speaker's bureau.
5. Bi-monthly magazine.
6. Literature, cookbooks available.
7. Professional referrals.
8. Fund diabetes research.

Epilepsy

Epilepsy Federation of Greater St. Louis
4144 Lindell, Suite 200, St. Louis 63108
(314) 531-3900

1. Job placement and work adjustment programs.
2. Individual and family counseling.
3. Speaker's Bureau for general public, paraprofessionals, professionals.
4. Emergency medication assistance.
5. Advocacy.
6. Quarterly newsletter.

Greater Kansas City Epilepsy League
4049 Pennsylvania, Suite 208, Kansas City 64111
(816) 531-1247

1. Discount drug program makes anti-convulsants available on ability to pay basis.
2. Consultation and training programs available on individualized basis which include medical, pharmacological and psycho-social information.
3. Counseling program including individual, family, vocational and referral to other resources.
4. Prepared written pamphlets and other materials for patients, children and family members.
5. Film library.
6. Professional education and job placement.

Growth Disorders

Human Growth Foundation, Greater St. Louis Chapter
Box 15885, St. Louis 63114
(314) 429-6893

1. Counseling for families about growth disturbances.
2. Referral source for information regarding financial assistance and growth problems.
3. Assists National Pituitary Agency in collection of human pituitary glands.

Heart

American Heart Association, Missouri Affiliate, Inc.
P.O. Box Q, 105 E. Ash, Suite 2, Columbia 65205
(314) 442-3193

1. Sponsor for medical research.
2. Sponsor educational programs on cardiovascular disease for all professionals.
3. Sponsor educational programs for public.
4. Assist in development of community service programs.
5. Referral for financial assistance or special services.

Hemophilia

Bi-State Hemophilia Association
P.O. Box 22246, St. Louis 63116
(314) 771-6080

1. Free summer camp for hemophiliac children.
2. New implementation of drop shipment of Factor 8 and Factor 9 for those on the state home care program.
3. Sponsor hemophilia clinic at Cardinal Glennon Hospital.

Kidney

National Kidney Foundation of Kansas and Western Missouri
One West Armour, Suite 20, Kansas City 64111
(816) 756-2002

Kidney Foundation of Eastern Missouri and Metro East, Inc.
8135 Forsyth Blvd., St. Louis 63105
(314) 863-5858

1. Public, patient and professional education.
2. Patient services include Drug Bank, information and referral, emergency assistance, social activities, and "Exercise Program for the Person with Chronic Renal Disease."
3. Community Services include cooperative efforts with other agencies regarding high blood pressure screening, school health programs, and health fairs.
4. "Gift of Life" Organ Donor Program to encourage the donation of not only kidneys, but all transplantable organs.

Lung

American Lung Association of Eastern Missouri
411 North 7th, Room 709, St. Louis 63101
(314) 241-1554

American Lung Association of Western Missouri
2007 Broadway, Kansas City 64108
(816) 842-5242

1. Health education films and materials aimed at prevention of lung disease.
2. Publications on treatment of lung diseases; seminars for physicians, nurses and allied health professionals on lung diseases.
3. Public quit smoking clinics.
4. Asthma education programs for children.
5. School health projects.
6. Support medical training and research.

Multiple Sclerosis

Multiple Sclerosis Society, Greater Kansas City Area Chapter
P.O. Box 2292, Shawnee Mission, Kan. 66201
(913) 432-3926

Mid-Missouri Chapter
National Multiple Sclerosis Society
1201 Paquin G-2, Columbia 65201
(314) 875-6767

National Multiple Sclerosis Society, Gateway Area Chapter
915 Olive St., #815, St. Louis 63101
(314) 241-8285

1. Weekly MS clinic at Kansas University Medical Center.
2. Patient equipment pool (purchase and loan).
3. Counseling.
4. Home care course for family education.
5. Support groups for patients and families.
6. Referral to community resources.

Muscular Dystrophy

Muscular Dystrophy Association, Inc., Greater Ozarks Chapter
1087 E. Commercial, Springfield 65803
(417) 866-5117

Muscular Dystrophy Association, Inc., Missouri Valley Chapter
3435 Broadway, Suite L-9, Kansas City 64111
(816) 931-7750

Muscular Dystrophy Association, Central Missouri Chapter
914 Tandy, Suite 2, Columbia 65201
(314) 442-5154

Muscular Dystrophy Association
310 Broadway, 4th Floor
Cape Girardeau 63701
(314) 335-4400

Muscular Dystrophy Association, Inc., Mississippi Valley Chapter
1023 S. Big Bend Blvd., St. Louis 63117
(314) 644-2828

1. Diagnostic testing for 40 neuromuscular disorders at no cost to patient after third party resources have been utilized.
2. Payment for orthopedic appliances.
3. Payment for limited amount of physical and occupational therapy.
4. Payment for influenza inoculations.
5. Transportation assistance.
6. Free services supplied at outpatient clinics.
7. Genetic counseling.
8. Professional education.

MYASTHENIA GRAVIS

Myasthenia Gravis Foundation, Inc., Greater Kansas City Chapter
4949 Rockhill Rd., Kansas City 64110
(816) 276-8310

1. Outpatient clinic on referral from patient's physician for confirmation of diagnosis, consultation or patient maintenance.
2. Myasthenia gravis drug bank.
3. Professional and patient educational materials.
4. Free physician manual and nursing manual.
5. Professional educational seminar: Film and speaker provided.

RED CROSS

American Red Cross, Missouri/Illinois Regional Blood Services
4050 Lindell Blvd., St. Louis 63108
(314) 658-2000

American Red Cross, Greater Kansas City Chapter
3521 Broadway, Kansas City 64111
(816) 756-2365

1. Offers a number of health and safety education courses to the general public including Home Nursing, Healthy Lifestyles, the Low Down on High Blood Pressure, Better Eating for Better Health, First Aid, and Cardiopulmonary Resuscitation.
2. Provides Vital Signs Module I & II, a means of teaching the general public to measure their own temperature, pulse, respiration rate and blood pressure.
3. Provides emergency assistance and information and referral to disaster victims and military families.

RETARDED CITIZENS

Association for Retarded Citizens/Missouri
P.O. Box 1705, 230 W. Dunklin, Jefferson City 65102
(314) 634-2220 Toll Free 1-800-392-0218

Barry-Lawrence ARC
P.O. Box 244, Monett 65708
(417) 235-3596

Boone County ARC
1201 Subella, Columbia 65201
314-445-5159

Clay-Platte ARC
3615 N. College, Kansas City 64116
816-452-5969

Cole County ARC
1515 E. High St., Jefferson City 65101
314-635-4490

Gentry County ARC
Albany 64402
816-726-4155

Greene Country ARC
1031 E. Battlefield, Ste. 117, Springfield 65807
417-883-3442

Jackson County ARC
2918 Norwood, Independence 64052
816-461-6253

Joplin Area ARC
2115 Murphy, Joplin 64801
417-623-1899

Lake of the Ozarks ARC
Route 3, Lakeview Drive, Camdenton 65020
314-346-3172

Midland Empire ARC
4413 W. Haverill, St. Joseph 64506
816-232-9768

Moniteau County ARC
Jamestown Star Rt., California 65081
314-796-3216

Montgomery County ARC
P.O. Box 111, Montgomery City 63661
314-564-2925

St. Charles County ARC
P.O. Box 672, 321 Droste, St. Charles 63301
314-724-6216

Stoddard County ARC
Rt. 2, Box 11, Dexter 63841
314-624-8525

1. Clearinghouse for information on mental retardation.
2. Referral services.
3. Professional and public information and consultation available.
4. Day care centers, recreational programs and parent counseling, group homes, preschool programs, and other direct services.
5. Residential and respite care services.

SUDDEN INFANT DEATH SYNDROME

St. Louis Regional Maternal and Child Health Council, Inc.
5600 Oakland Ave., Suite G-350A, St. Louis 63110
(314) 644-4100

1. Provides and coordinates free support services, including information and counseling, to families experiencing the death of an infant due to SIDS.
2. Distributes SIDS educational materials.
3. Provides education and training to health professionals and first responders to the death of an infant (police, firemen, ambulance paramedics, etc.).
4. Public information and community education.
5. Referrals to community resources.
6. Parent/peer counseling.
7. Supervises development of statewide support services for SIDS families.

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Insurance Plans Available to MSMA Members

For Details of Each Plan Contact the Administrator

TYPE OF COVERAGE	UNDERWRITER	ADMINISTRATOR
Professional Liability Insurance. Claim coverage available from $100,000/$300,000 to $2/$3 million. Endorsed by MSMA.	Missouri Medical Insurance Company 10795 Watson Road St. Louis, MO 63127 Telephone: 800-392-8039	
Personal Disability Income. Benefits available up to $6,000 per month. Lifetime accident/to age 65 sickness coverage. Residual disability benefit available with cost of living increase provision. An individual contract with special renewal guarantees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. Western Missouri 2420 Pershing Road Kansas City, MO 64108 Tel: (816) 842-6670 Eastern Missouri 231 S. Bemiston — Suite 1000 Clayton, MO 63105 Tel.: (314) 863-7777
Overhead Expense Insurance. Benefits up to $10,000 per month. Payment begins after 30 days disability and continues up to 2 years.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Accidental Death and Dismemberment. Up to $150,000 coverage. May include spouse, children and employees.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Hospital Indemnity Plan. $20 to $100 per day while hospitalized in addition to any other insurance. Family coverage available.	Commercial Insurance Company of Newark, N.J.	Fred S. James & Co. of Missouri, Inc. (see above)
Term Life Plan. Members and employees under age 60 may enroll for amounts up to $250,000. Spouses coverage, one half amount of member or employee, up to $100,000. Dependent children may be insured for $2,500.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 Tel.: 1-800-892-7272
Major Medical Plan. Pays up to a lifetime of $500,000. Deductibles from $200-$1,000. Coverage available to members, employees and dependents.	Mutual Life Insurance Company of New York	Forrest T. Jones & Co., Inc. 3130 Broadway P.O. Box 131 Kansas City, MO 64141 Tel: 1-800-892-7272
Workers' Compensation Insurance. A dividend program which returns premiums as earned each year, based on cost of claims from all participating physicians. The dividends often run between 30-40% per year.	Casualty Reciprocal Exchange, Member of Dodson Insurance Group	Dodson Insurance Group 92nd and State Line Kansas City, MO 64114 1-800-892-3431 (816) 361-3400

Directory of Medical Specialty Organizations in Missouri

For the convenience of all MSMA members, the following is a list of medical specialty organizations in Missouri who responded to a request from MISSOURI MEDICINE for information regarding their officers and meeting time and place. This information will appear in MISSOURI MEDICINE twice yearly and will be updated again in the February, 1985 issue.

Any group not included below is invited to send this information to MISSOURI MEDICINE, P. O. Box 1028, Jefferson City, MO 65102.

* Please Note: The addresses and phone numbers of physicians' names with an asterisk (*) are listed in this Directory-Roster issue of MISSOURI MEDICINE.

MISSOURI STATE ALLERGY ASSOCIATION

President: Wayne B. Miles, M.D.*
Secretary Treasurer: John Wood, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI SOCIETY OF ANESTHESIOLOGISTS

President: James O. Alyea, M.D.*
Secretary: Milamari Cunningham, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI DERMATOLOGY SOCIETY

President: Dallas Johnson, M.D.*
Executive Secretary: Dan H. Young, 8000 Crescent Dr., Clayton 63105
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI CHAPTER, AMERICAN COLLEGE OF EMERGENCY PHYSICIANS

President: Edward B. Kinports, Jr., M.D., 2400 Pershing Road, Suite 561, Kansas City 64108
Secretary: David M. Trantham, M.D., St. Francis Medical Center, St. Francis Drive, Cape Girardeau 63701
Chapter Executive: Marian Minter, 15073 Green Circle Dr., Chesterfield 63017
Time and Place: TBA

MISSOURI EAR, NOSE & THROAT ASSOCIATION

President: Joseph West, M.D.* (1983-1985)
President-Elect: Keith A. LaFerriere, M.D.*
Secretary: Donald Joseph, M.D.*
Treasurer: William Davis, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI ACADEMY OF FAMILY PHYSICIANS

President: George P. Williams, M.D.*
Secretary-Treasurer: Catherine O. Boydston, M.D.*
Time: June 1985

MISSOURI SOCIETY OF INTERNAL MEDICINE

President: Michael C. Perry, M.D.*
Secretary-Treasurer: D. Douglas Westhoff, M.D.*
Time and Place: October 12-14, Lodge of the Four Seasons, Lake of the Ozarks

MISSOURI STATE NEUROSURGICAL SOCIETY

President: Harry O. Cole, M.D.*
Secretary-Treasurer: Jerome Hanson, Jr., M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI OB/GYN-ACOG

Chairman: James G. Blythe, M.D.*
Secretary-Treasurer: James E. Bickley, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

President: Robert F. Tobin, M.D.*
Secretary: Joseph Giangiacomo, M.D.
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI STATE ORTHOPAEDIC ASSOCIATION

President: Ray Ritter, Jr., M.D.*
Secretary: George Luther, M.D.*
Time and Place: Sept. 19-22, 1985, Holiday Inn, University Plaza, Springfield

MISSOURI SOCIETY OF PATHOLOGISTS

President: David D. Zoller, M.D.*
Secretary-Treasurer: Douglas L. Richardson, M.D.
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI CHAPTER, AMERICAN ACADEMY OF PEDIATRICS

Chairman: David Simon, M.D.*
Alternate Chairman: Nirmal K. Mitra, M.D.*
Secretary-Treasurer: Robert W. Edmonds, M.D.*
Time and Place: TBA

CENTRAL MISSOURI PSYCHIATRIC SOCIETY

President: Anasseril E. Daniel, M.D., Mid-Missouri Mental Health Center, 803 Stadium Road, Columbia 65201
Secretary-Treasurer: Bruce Harry, M.D., Dept. of Psychiatry, University of Missouri-Columbia School of Medicine, Columbia, MO 65212
Time and Place: Last Wednesday of every month, 12:30 p.m., conference call

MISSOURI RADIOLOGICAL SOCIETY

President: Charles L. Abramson, M.D.*
Secretary: Julian N. Verde, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

CENTRAL SOCIETY OF REHABILITATION MEDICINE

President: Franz Steinberg, M.D.*
Secretary-Treasurer: V. Nanda Kumer, M.D., VA Hospital, 4801 Linwood Blvd., Kansas City 64128
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI CHAPTER, AMERICAN COLLEGE OF SURGEONS

President: Charles B. Anderson, M.D.*
Secretary-Treasurer: Martin J. Bell, M.D.*
Time and Place: TBA

MISSOURI STATE SURGICAL SOCIETY

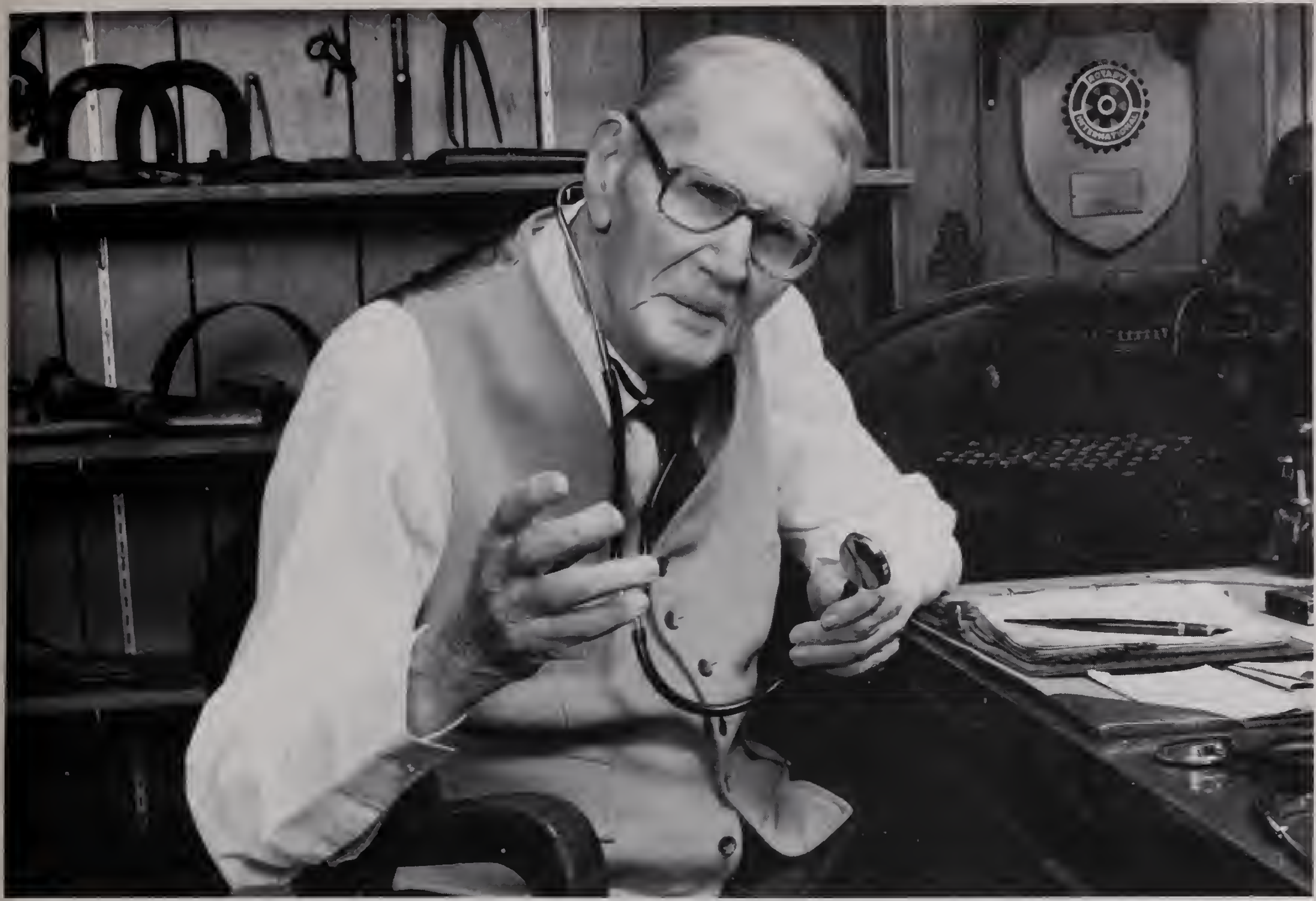
President: Melvin Kasten, M.D.*
Secretary-Treasurer: Frank L. Mitchell, M.D.*
Time and Place: MSMA Annual Convention, Kansas City

MISSOURI THORACIC SOCIETY

President: John R. Goheen, M.D.*
Secretary-Treasurer: William W. Pingleton, M.D.*
Time and Place: Oct. 25-28, 1984

FEDERATION OF MISSOURI UROLOGISTS

Acting Chairman: Jay Milne, M.D.*
Time and Place: MSMA Annual Convention, Kansas City



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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther* 32:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol* 3:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Missouri Medicine

Vol. 81, No. 9 (ISSN 0026-6620) September, 1984

Pseudocarcinoid Syndrome Due to Medullary Carcinoma of the Thyroid

M. D. S.

Diagnosis and Management of Diabetic Retinopathy

Lymphokine: Prospect as a Cancer Agent

Extracranial Injuries in Victims of Blunt Head Trauma

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PROGRESS NOTES

missouri state medical association

September 1984

Dr. Bradshaw named UMC dean

Dr. William D. Bradshaw

Dr. William D. Bradshaw has been appointed to a two-year term as dean of the University of Missouri-Columbia (UMC) School of Medicine, Provost Ronald Bunn announced. Dr. Bradshaw has served as interim dean of the school since May 1, 1983.

A national search for a permanent dean will be re-opened next spring, with an appointment to be made at the end of 1985-1986.

Tip of the Month

Sherie Walenga, an insurance clerk in the office of Drs. Branch, Brunell and Sadlowski in Tampa, Fla., has this idea for easy collection of unassigned Medicare claims.

"I work for a large practice that has quite a few Medicare patients. We found that when we filed non-assigned claims, patients often did not forward the checks to us. In our area, we normally receive payment three weeks from the date of filing. So, when I file the patient's insurance claim, I also type a note to the patient stating: 'You should be receiving your Medicare check in one week; please forward it to our office.' Then I file the note in a 'calendar book' for two weeks ahead. When the two weeks have passed, I send the note. The patient knows the payment is coming and knows exactly where to send it!"

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Report shows

Rural physicians in short supply

The number of physicians practicing in rural Missouri increased moderately between 1976 and 1983, according to figures released by the Missouri Center for Health Statistics. The number of doctors per 10,000 population, however, showed no significant change during the study period.

In 1976, rural Missouri had a total of 491 full-time or part-time physicians practicing. ("Rural" means a town or community that is not within a Standard Metropolitan Statistical Area - SMSA - as defined by the Missouri Student Loan Program, and that has a population of 6,000 or fewer.) By 1983, there were 539 physicians practicing in these areas, making an increase of 48 physicians.

The age of doctors practicing in rural areas has also gone down over the 1976-1983 study period. There was a 8.3 percent increase in the number of doctors under age 65, and a 23.3 percent increase in the number under age 55.

The Center also analyzed data from the survey in relation to the size of the towns in which physicians are locating. Nearly two-thirds of the communities had physicians in both 1976 and 1983. One-fourth increased the number of doctors in town, while one-fifth lost physicians during the seven-year span.

Nearly three-fourths of the communities with physicians in 1976 had the same or a greater number in 1983.

(continued on next page)

Scam of the Month

Beware 'fat lady' drug scheme

Missouri's physicians, often unaware of the sophistication and boldness of so-called "professional patients," may make ready targets for scams to obtain controlled-drug prescriptions.

The Education Committee of the Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs has published a collection of various drug-obtaining scams to make Missouri health professionals aware of the techniques used by these con artists. The first in this series of "Scams of the Month" is reprinted here, under the title "The Fat Lady Scam."

MSMA members are invited to share their novel or unusual experiences in dealing with "professional patients." Send your stories to the Communications Department, MSMA, P.O. Box 1028, Jefferson City, MO 65101. The anecdotes may find a place in future Task Force publications, and may help keep a fellow physician from falling prey to a similar con job.

One popular deception to obtain controlled drugs is the so-called "fat lady" scam, perpetrated by a team of four or five badly overweight women and one man. Their carefully devised plan begins when they move into a new community. They develop a schedule that allows each woman to visit as many doctors as possible each day for a week or so.

Though each "fat lady's" story varies, the general gist of the professional patient's complaint is that her weight problem is causing her a great deal of unhappiness. She says her husband is ready to leave her, and her children are embarrassed. She professes to be weak-willed and unable to maintain a diet regimen. In her desperation, she says, she has even considered suicide.

Her usually tearful interview eventually leads to a consideration of having her jaw wired shut or having part of her intestine removed. Finally, she brings up the possibil-

(continued on next page)

DRG changes outlined

As reported in last month's *Progress Notes,* the Health Care Financing Administration has proposed several changes in the wording of the physician certification statement that must be signed under the DRG program.

HCFA says the changes, urged by the AMA, will help clarify the scope of the "penalty warning" that appeared in the original statement.

The original wording ran as follows:

> "I certify that the identification of the principal and secondary diagnoses and the procedures performed is accurate and complete to the best of my knowledge (Notice: Intentional misrepresentation, concealment, or falsification of this information may, in the case of a Medicare beneficiary, be punishable by imprisonment, fine, or civil penalty)."

The changes proposed by HCFA are:

—Replacing the word "identification" with the phrase "narrative descriptions" since the word identification has been interpreted by physicians to mean that they are responsible for certifying the accuracy of the coding performed by hospital personnel.

—Inserting the word "major" before "procedures performed" since many minor procedures often are performed without the physician's personal knowledge.

—Placing the certification statement on the discharge summary shjeet rather than on another type of hospital form to make it clear that the physician is attesting only to the diagnosis and procedures performed and not to codings that the hospital staff might include in the face sheet or other documents.

—Separation of the certification statement from the penalty statement, with the penalty statement provided annually to a physician in a notice which the physician must acknowledge in writing.

Clark appointed

Gary R. Clark, Executive Secretary for the Missouri State Board of Registration for the Healing Arts, has been appointed to a national Commission to Evaluate Foreign Medical Schools.

The commission, made up of licensing experts from across the country, is organized to provide information about the quality of medical education provided by foreign medical schools.

★Rural physicians

(continued from page 1)

There was an increase in total physicians in each of the six community-size categories used by the Center over the 1976-1983 period. The increases were particularly large for physicians under age 55.

Unfortunately, even though the number of physicians practicing in rural Missouri increased from 1976-1983, the ratio of doctors to each 10,000 population changed very little, as the following table shows.

	1976	1983
Total physicians	4.0	4.0
Physicians under age 65	3.2	3.2
Physicians under age 55	2.2	2.4

This ratio of 4.0 total physicians per 10,000 population remains far below that considered adequate. A recent study, reviewing the adequacy of Michigan's physician supply, used a standard of 7.2 primary-care physicians per 10,000 population. A national study used the "professional judgment-based" rate of 7.9 per 10,000. Rural Missouri's rate of 4.0, therefore, is only about half of the rate considered desirable.

For any improvement to be realized in the physician supply to rural Missouri, the Health Statistics Center said, physicians must be willing to locate in much smaller communities than they have been.

Missouri's population stands at 4,970,000 people, living in six SMSAs that encompass 16 counties and the city of St. Louis. Vast areas of the state are, however, very sparsely populated. Only 28 non-SMSA counties contain at least one city of more than 6,000 people. That leaves 70 counties in which the largest community has fewer than 6,000 people. In 49 counties, the largest community is under 3,000 population.

As a result, if rural Missouri's 1.3 million residents are to continue to have doctors, a continuing number of physicians must be willing to practice in the small community.

Where these physicians come from will also play a role in maintaining physician supply. At present, rural Missouri has 13 Missouri Student Loan recipients and 24 physicians serving a National Health Service Corps obligation.

Some of the NHSC physicians will be leaving upon completion of their obligation, but it is expected that most would be replaced. Still, the Center said, the NHSC program cannot be depended upon to solve rural Missouri's need for physicians.

The Center's report concluded that if past trends continue, Missouri can be expected to "hold its own" in physician supply, gaining doctors in some areas while losing them in others. However, the report said, the state cannot rely on an increasing physician supply to solve its problem of underservice in the rural areas.

★Scam of the month

(continued from page 1)

ity of medication as an alternative.

It is at this point that the professional patient's true skills come into play. She will usually mention Preludin as a "drug of choice," followed by other Schedule II Amphetamines.

If the physician refuses to prescribe a Schedule II drug, the patient quickly tells the doctor that Didrex has worked in the past. She also suggests the doctor add a couple of refills to the prescription. The skillful con woman will then request a prescription for a sleeping pill, since it will be difficult to sleep after taking the weight-control drug. The bolder con artist will also request a tranquilizer, such as Valium, so the other drugs don't make her edgy.

After a successful scam, the female professional patient is allowed to keep only a small number of the pills obtained. The majority will be sold by her "man" to local street drug dealers. Profits from the numerous prescriptions obtained by these teams have been estimated to be as high as $10,000 a week. This figure was confirmed from the actual financial records of several drug dealers arrested for selling controlled drugs.

REMEMBER: The potential for abuse of controlled, stimulant-type diet drugs far outweighs any benefit from use for weight control. Studies consistently show that the weight lost while on the drug is quickly regained immediately after the patient stops taking it.

Physicians who do prescribe stimulants are cautioned to be wary of patients unknown to them. Ask for positive, picture identification. Be cautious of patients who report they have been seeing other doctors, and those who are enthusiastic about drugs taken in the past (usually Prelvain).

Physicians should also be alert to situations in which several women are seen in a short period of time for the same reason, or when patients consistently report they were referred by other patients who were treated for obesity.

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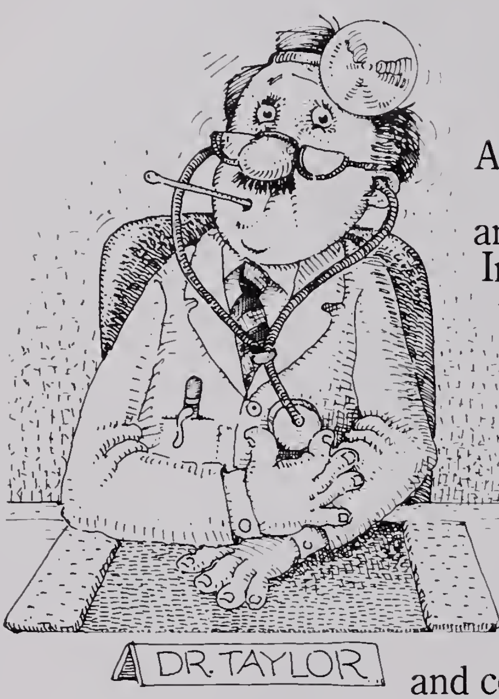

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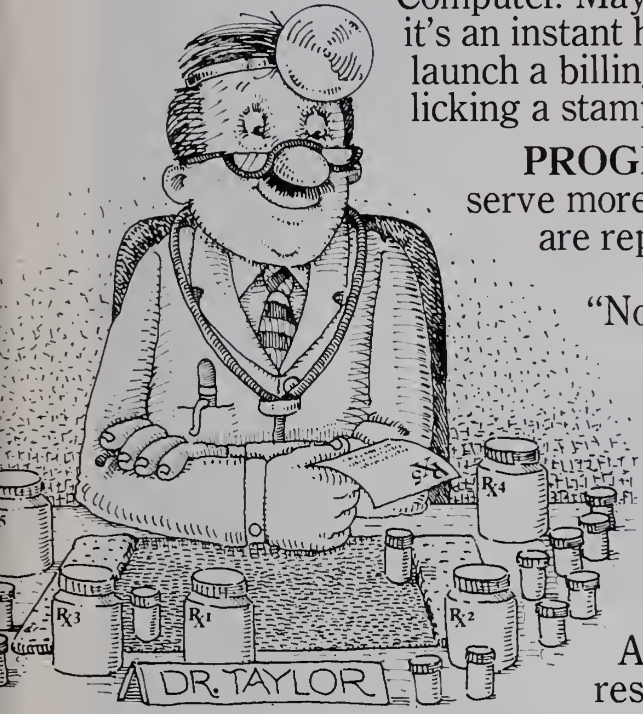

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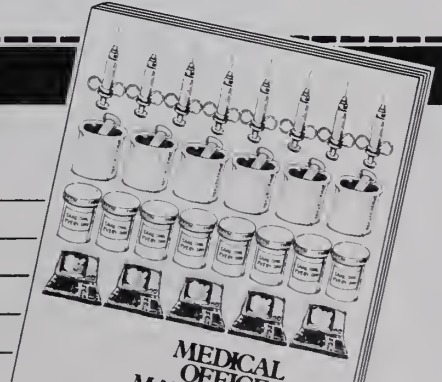

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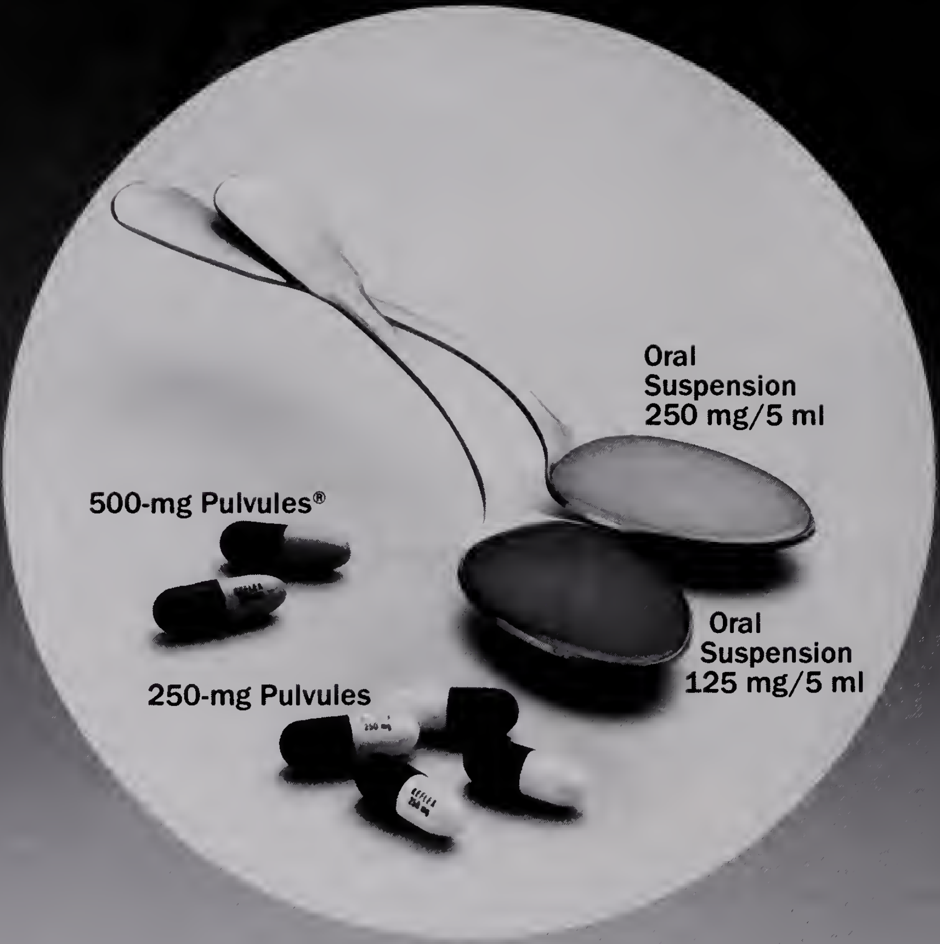
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Editor's Corner

EDITORIAL

Matters always seem worse to people in cloudy weather — any psychologist can tell us that. Conversely, things appear brightest when the weather is best. Since this area has seen precious little rain in the past six weeks, a person's outlook should be upbeat. Such a philosophical thought would be put to the severest test in the realm of medicine, with all the various legal conflicts and economic controls encircling us.

The medical malpractice situation has gotten so bad, it has to get better. There does seem to be some hope for relief. At last, business and government have come to discuss the fact that our current medical legal-climate is costing them money — which is why it is now receiving attention. The high malpractice premiums that have to be paid by physicians are, of course, being borne by the consumer, and government and business have interposed themselves heavily on behalf of the patient-consumer, as we all know. It is quite unlikely that any hoped-for, overwhelming change in our legal system will occur — progress will likely come in bits and pieces.

One promising proposal that has been made is that a no-fault compensation system be instituted to cover pediatric immunizations. The value of the DPT Program is unquestionable; the quite rare but serious patient reaction to these vaccines has the physicians and drug companies at risk in our present tort system. If a no-fault compensation system could be established for this one situation, it could well represent the beginning of long overdue change and, perhaps, eventually be utilized in other realms of medical endeavor. Awards in malpractice cases are beginning to be allowed on an annuity basis, and less expansive legal fees are being authorized by the insurance carriers and the courts.

Other problems in medicine are finally being considered on the national level. The fact that the nation cannot afford all possible medical care for all people is slowly sinking into the heads of the politicians-who-count, and such truth will become more pertinent when it becomes obvious that DRGs won't solve Medicare's financial difficulties. The DRG regulations themselves, no matter how ill-conceived, are having a few positive spinoffs. Some unreasonably high hospital charges have had to be brought down, and physicians and hospital administrators have had to work together more than ever. The PPO and HMO aggressive approaches to medical care are serving to unite independent physicians. Also, by placing a few of the high priced, new surgical procedures up for bid, the organized plans have brought some elevated medical fees, which reflect on all of us, down to a reasonable level.

If all this seems to be a Pollyanna outlook on our medical world, blame it on the sunshine. If it would just cloud up and rain, then the good old gloomy thoughts could return. Besides that, we could quit having to water the lawn.

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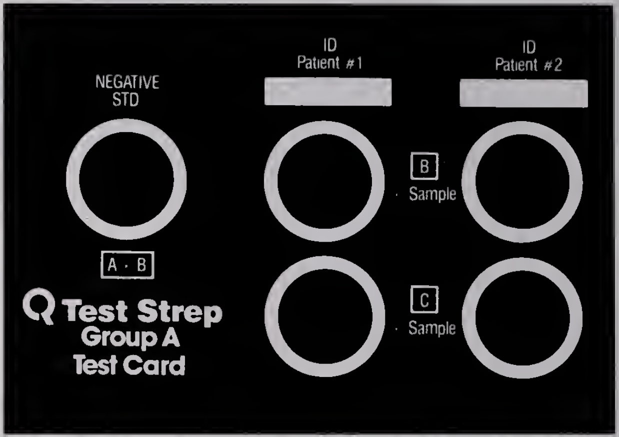

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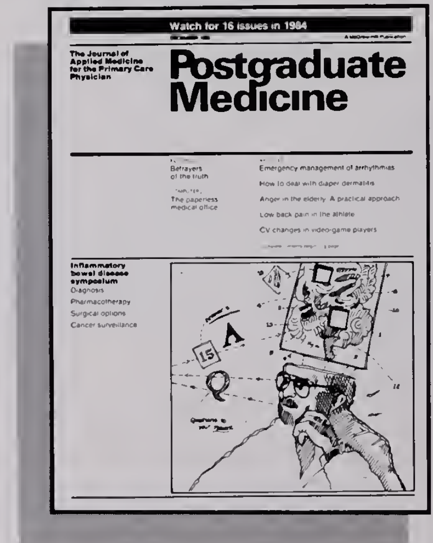
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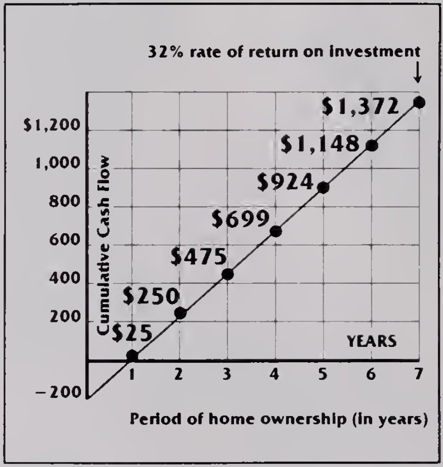

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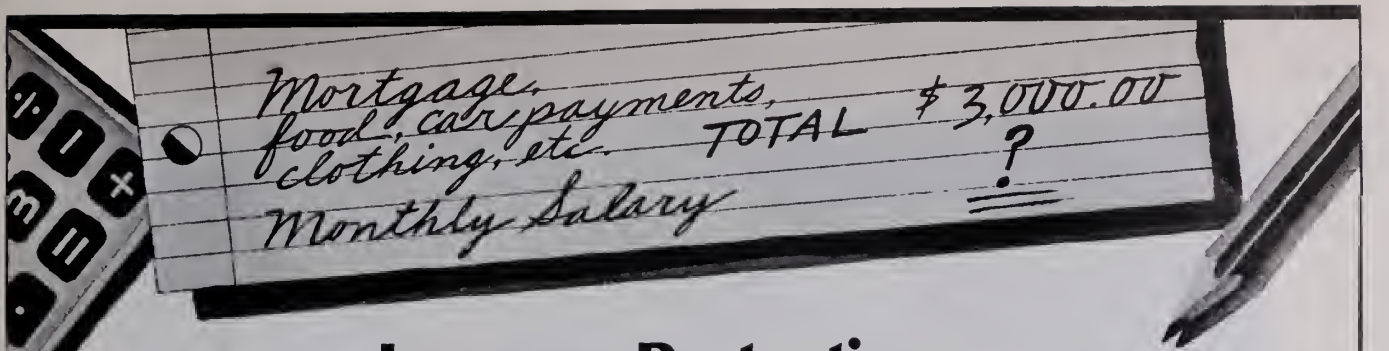
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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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THOMAS S. HELLING, M.D., *and* E. JEROME HANSON, M.D., *Kansas City*

Extracranial Injuries in Victims of Blunt Head Trauma

HEAD INJURY from blunt trauma continues to be a relatively common occurrence in today's society, particularly in view of the carnage recorded yearly on our highways. Approximately 70% of victims of vehicular trauma will sustain head injuries, and the number of deaths alone from such accidents approaches 50,000 per year.[1] As alarming and life threatening as serious head injuries may initially appear, other equally serious injuries can coexist and may be overlooked in the rush to evaluate and treat the head-injured patient. Recognition of associated injuries may help in assigning treatment priorities and in avoiding catastrophic problems in patient management later.

With the introduction of the Glasgow Coma Scale (GCS) by Teasdale and Jennett in 1974,[2] it became theoretically possible to compare evaluation of condition, treatment and outcome of head-injured patients with some uniformity among institutions. We adopted the GCS in our neurosurgical unit in 1978 and have used it routinely for assessing the condition of patients with altered states of consciousness (Table 1). Because it can serve as a standard for comparison, we have employed the GCS in reviewing the incidence and severity of associated injuries in patients admitted to our neurosurgical unit with serious head trauma.

Clinical Material

The records of all patients admitted to the neurosurgical unit of St. Luke's Hospital in Kansas City, Mo. from July 1978 to January, 1983 with an initial GCS score of ten or less were reviewed. All patients with penetrating head injuries or with a GCS score higher than ten were excluded.

During this period, 51 patients were treated. Twenty-two of these patients sustained their injuries from auto accidents, 13 from falls, 11 from being struck by automobiles, three from motorcycle accidents, one from a crush injury, and one from an assault. There were 33 male patients and 18 female patients with an age range of two to 86 years (mean 33.3 years). Of the entire group, 21

Extracranial injuries in patients with severe blunt head trauma can be life threatening and may be overlooked during assessment and treatment of the head injury. By using the Glasgow Coma Scale (GCS) to assess the severity of a head injury, the authors reviewed all patients admitted to the neurosurgical unit at St. Luke's Hospital over the past five years with a GSC score of ten or less. They conclude that comprehensive management of the severely head-injured patient may help improve cerebral function through correction of aggravating factors and may detect unrecognized injuries that could jeopardize subsequent patient care.

The authors are from the Department of Surgery and Regional Neuroscience Center, St. Luke's Hospital.

TABLE 1
GLASGOW COMA SCALE*

Eye opening	Spontaneous	4
	To voice	3
	To pain	2
	None	1
Verbal response	Oriented	5
	Confused	4
	Inappropriate words	3
	Incomprehensible words	2
	None	1
Motor response	Obeys commands	6
	Localizes pain	5
	Withdraws (pain)	4
	Flexion (pain)	3
	Extension (pain)	2
	None	1

* After Teasdale and Jennett.[2]

TABLE 2
DISTRIBUTION OF PATIENTS ACCORDING TO GLASGOW COMA SCALE SCORE, CORRESPONDING MORTALITY AND ASSOCIATED INJURIES

Glasgow Coma Scale	*No. of Patients*	*No. Died*	*No. With Associated Injuries*
3	16	15	9
4	5	2	4
5	4	1	3
6	7	1	3
7	6	1	3
8	3	1	1
9	2	0	2
10	8	0	4

patients (41%) died after admission to the hospital and five had significant mental and functional impairment at the time of dismissal. Eighteen patients died of irreversible brain injury: one patient of profound shock, probably from an unrecognized intrathoracic or intra-abdominal injury; one of sepsis, most likely as a result of an unrecognized esophageal rupture; and one of a pulmonary embolus. Seven of 12 patients (58%) over 50 years of age and 14 of 39 patients (36%) 50 years of age and younger died. Table 2 outlines the distribution of the GCS score, corresponding mortality, and the number of patients with associated injuries. The lower GCS score correlated with a higher mortality, as expected. However, there did not seem to be a relationship between severity of head injury and frequency of associated injuries.

Central nervous system (CNS) injuries consisted primarily of cerebral and/or brain stem contusion complicated at times by the presence of mass lesions and subdural, epidural, or intracerebral hematomas (Table 3). The condition of all patients was initially evaluated by computerized head scanning. Surgical intervention which consisted of decompressive procedures or insertion of intracranial monitoring devices, was performed when indicated. Twelve patients had accompanying skull fractures.

TABLE 3
CENTRAL NERVOUS SYSTEM INJURY IN 51 PATIENTS WITH BLUNT HEAD TRAUMA

Cerebral contusion	33
Brain-stem contusion	16
Epidural hematoma	5
Subdural hematoma	8
Intracerebral hematoma	3
Skull fractures	12

Associated injuries were found in 29 patients (56%) and are listed in Table 4. Orthopedic injuries were most commonly encountered. Frequently, these injuries involved fractures of the upper and lower extremities and usually were not life threatening. Rather surprisingly, only one cervical fracture and one lumbar fracture were found. The patient who suffered three cervical fractures died of his head injury. The other patient, with compression fractures of the third and fourth lumbar vertebrae, was dismissed without sequelae. Chest injuries affected 15 patients and frequently resulted in pneumohemothoraces.

TABLE 4
ASSOCIATED INJURIES IN 29 PATIENTS WITH BLUNT HEAD TRAUMA

	No. of Patients	
Orthopedic injuries		22
Upper extremity fractures	12	
Lower extremity fractures	11	
Pelvic fractures	4	
Cervical fractures	1	
Lumbar fractures	2	
Chest injuries		15
Pneumo/hemothorax	7	
Flail chest	2	
Pulmonary contusion	3	
Fractured ribs	10	
Abdominal injuries		8
Retroperitoneal hematoma	5	
Ruptured spleen	2	
Lacerated liver	1	
Renal contusion	1	
Pancreatitis	1	
Maxillo-mandibular Injuries		7
Shock on admission		6

This included one patient whose condition deteriorated suddenly while undergoing computerized head scanning and who was found to have an unrecognized tension pneumothorax that required immediate tube thoracostomy for resuscitation.

One of two patients admitted with a flail chest and underlying pulmonary contusions had aspirated before intubation could be accomplished. Eight patients suffered abdominal injuries requiring celiotomy as a result of a positive peritoneal lavage or unstable hemodynamics. Of nine patients who underwent peritoneal lavage because of their unresponsive state alone, three were found to have occult intra-abdominal injuries. Three patients undergoing celiotomy had a surgically correctable problem while five had retroperitoneal hematomas and no other injuries. Significant maxillo-mandibular fractures were seen in seven patients.

When admitted to the Emergency Department, 12 patients (24%) had injuries that, if not immediately life threatening, were judged to be serious enough to compromise cerebral function. Six of these patients were in hypovolemic shock, four suffered a unilateral or bilateral pneumothorax, and two were found to have a flail chest.

Twelve of the 21 patients died within the first 48 hours. The duration of hospitalization for patients surviving beyond 48 hours varied. Five patients required at least 90 days of hospitalization, and the mean hospital stay was 38.8 days.

Discussion

The GCS was developed by Teasdale and Jennett to provide a reliable and reproducible method for assessing the condition of a patient with impaired consciousness.[2] Followup studies have demonstrated the reliability of such a scale.[3, 4] We have employed the GCS in examining the frequency and severity of associated injuries in patients with serious blunt head injuries. As expected, patients with a low GCS score had a high mortality. Moreover, the majority of deaths in our series (18/21) were due to irreversible brain injury. We did note, however, that three patients died of non-CNS problems, two of whom most likely had unrecognized injuries.

As might be expected, a multi-system injury was found in a large number (56%) of patients since the most common initiating event was vehicular trauma. This is a higher incidence than reported by Jennett and associates from their survey of head injuries in Glasgow, the Netherlands, and Los Angeles, where the incidence of extracranial injury was 30%, 44% and 37% respectively.[4] Although many of our patients had the lowest GCS score attainable, additional injuries were found with equal frequency in patients with high GCS scores. Orthopedic injuries were often found but were not life-threatening problems.

Fractures of the cervical vertebrae were found in only one patient, but consequences of such injuries can be so disastrous if overlooked that we stress stabilization of the neck in any patient with a serious head injury. On the other hand, chest injuries, particularly pneumothorax, could and did in one instance become catastrophic problems requiring immediate diagnosis and treatment. Thoracic injuries were relatively frequent in our patient series and affected 15 of 51 patients (29%) as opposed to a larger group reported by Jennett and coworkers[5] who found that only 6.6% of comparable patients suffered chest injuries.

Abdominal injuries in the comatose patient were easy to overlook. The high incidence of associated injuries in these patients coupled with unexpected positive lavage return in three of nine patients has convinced us to routinely perform this diagnostic test in all patients with GCS scores of ten or less, unless other obvious indications for celiotomy are present. Others have recommended similar protocols for patients with serious head injuries. Engrave and associates[6] found 13.4% of 268 patients with an altered sensorium to have a positive peritoneal lavage. More impressive, Parvin and colleagues[7] reported in their series that all five patients who were unconscious had a positive return on lavage. Overlooked abdominal injuries may have disastrous consequences as pointed out by Foley and coworkers,[8] who described six patients who died after arrival at the Emergency Department of unrecognized intra-abdominal bleeding from potentially correctable injuries, most commonly lacerated spleens.

Maxillofacial fractures seen in 14% of our patients included three Le Fort II fractures and four mandibular fractures. All patients were successfully treated without cricothyrodotomy or tracheostomy; however, severe maxillofacial trauma frequently requires such efforts to establish an adequate airway.

Although a severe head injury resulting in a GCS score of three or four carries a high mortality in our series (81%) and others,[5] the situation is not hopeless. Becker and associates[9] have reported

(Continued on page 606)

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Lymphokine: Prospect as a Cancer Agent

The authors' studies of lymphokine as an agent for treating cancer are encouraging. To date, they have treated 30 patients in four studies during the past three years. They discuss the background, clinical experience, overall perspective and future plans for more studies of this important product.

The authors are from Ellis Fischel State Cancer Center and Cancer Research Center.

WHILE GREAT STRIDES have been made in the treatment of cancer with such modalities as surgery, radiation therapy and chemotherapy, many patients continue to die of this dreaded disease. In addition, the toxic effects of chemotherapy agents may result in significant patient morbidity and a feeling of despair on the part of both patients and physicians. As a result, the search for other modalities of therapy has become increasingly important. Among the more promising of the agents is one of the natural occurring lymphocyte products that has become commonly referred to as lymphokine.

BACKGROUND

Lymphokine is found in the supernatant material obtained by stimulating lymphocytes in culture. The term originally referred to the partially purified proteins isolated from a B-lymphocyte cell line several years ago. This supernatant has been the subject of intense investigation and analysis. Stimulation or activation of this cell line results in the production of several low molecular weight proteins with specific biological properties.

Among the proteins that have been isolated are those that activate macrophages and those that destroy lymphocytes. The first protein material has been termed macrophage activation factor (MAF) and the second has been called lymphotoxin (LT). Work is currently in progress to determine the amino acid sequence of these two biological substances. After this has been accomplished, the production of artifically sequenced MAF or LT could lead to methods of mass production.

CLINICAL EXPERIENCE

To date, about 30 patients have been treated with lymphokine in four separate studies over the past three years at Ellis Fischel State Cancer Center. These studies have been performed in a cautious, stepwise fashion in order to learn as much as possible about the mechanisms of action and to insure that harmful effects would not outweigh potential benefits. Small doses (0.1 ml) were initially used as single dose intradermal injections. The majority of the patients were treated in this manner.

In a recent study, the intravenous form of therapy was initiated for the first time. Five patients, each with far-advanced disease that had failed to respond to all previous forms of therapy, were treated. They received a slow (four hour) infusion of progressively increasing doses of lymphokine for a total of six treatments in 12 days. The minimum dose given was 10 ml and the maximum dose given was 100 ml. Fever and chills were found to be both the only, and the dose-limiting, toxicity, although these side effects could be ameliorated by increasing the infusion time to eight hours. A patient with metastatic melanoma had a complete response, with disappearance of a large tumor mass located on the right shoulder (Fig. 1). No response was noted in the other four patients. Their histologies were adenocarcinoma of the colon, adenocarcinoma of the ovary, adenocarcinoma of the breast, and malignant fibrous histiocytoma.

Laboratory measurements of the effect of lymphokine were very encouraging. Pre- and post-therapy measurements included a greater than ten-fold increase in MAF activity, an increase in delayed hypersensitivity skin test reactivity, an increase in absolute mononuclear cells, an in-

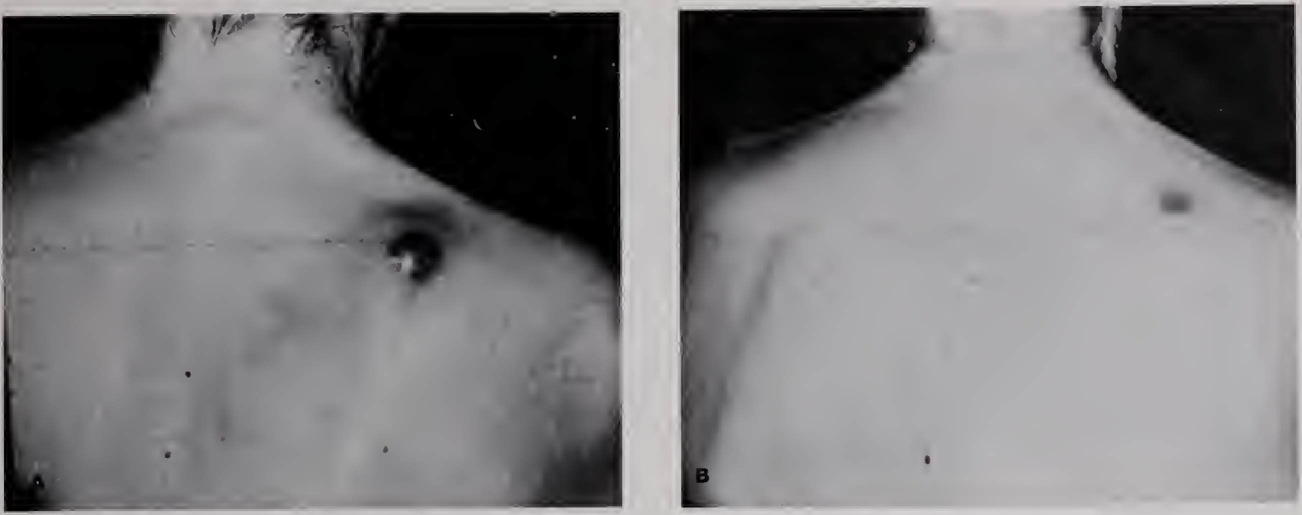

Fig. 1 *(Left)* **Pretreatment photograph of a 3 cm cutaneous metastatic melanoma tumor mass on the posterior aspect of the right shoulder.** ***(Right)*** **Post-treatment photograph of same area shows complete disappearance of the tumor mass. The residual skin pigmentation is believed to be hemosiderin.**

crease in alpha and beta serum globulins and an increase in IgG and IgM immunoglobulins. In addition, there was transient decline in plasma cortisol and serum iron. Because of these preliminary observations, the interaction between the hormonal and immunological systems with lymphokine seems likely.

OVERALL PERSPECTIVE AND FUTURE PLANS

Historically, immunomodulators such as BCG, *C. Parvum*, levamisole and other agents have been used in an attempt to produce an increased host reactivity against tumor cells. In recent years, our knowledge of the biological mechanisms involved in tumor rejection and the number of agents having potential beneficial biological anti-tumor activity have proliferated rapidly. To evaluate and regulate these activities, the National Cancer Institute developed the Biological Response Modifier Program with housing at Frederick, Md.

Among the more promising biological response modifiers that have been developed are thymosin fraction 5, thymosin alpha-1, lentinins and lymphokines. The term lymphokine has been broadened to include any one of several biological activities, including MAF, LT, the interleukins, interferon, colony stimulating factor (CSF), B-cell growth factor (BCGF) and tumor necrosis factor (TNF). The lymphokines have recently been reviewed,[1, 2] but considerable confusion and overlap among laboratories currently exists.

An international nomenclature committee has been recently organized and includes one of the authors (B.W.P.). This committee is in the progress of standardizing the testing methods and nomenclature in this important area. Because our product has originally been called lymphokine but has more recently been found to have MAF, LT and other important anti-tumor biological activity, we have arbitrarily elected to continue with the designation of lymphokine/MAF until the nomenclature committee completes its work and establishes their standard guidelines.

Our clinical studies have been very encouraging, but they have generated almost as many questions as they have solutions. Previous studies have demonstrated effectiveness in basal cell carcinoma and histiocytic lymphoma by using small dose intradermal treatments. Relatively large intravenous infusions have now been given safely and also appear to be promising. We feel that the most important observation made so far is that the treatment is relatively safe. Yet to be determined are the most effective dose and schedule of administration and the relationship between dose administered and the biological response observed. Also, an argument could be made that larger doses could be given since the maximum tolerated dose (MTD), in conventional means of expression, may not have been reached.

Additionally, with subsequent developments such as improved purification, amino acid sequencing and even genetic recombination, comparative studies with the current product will need to be performed. Comparative studies with other biological response modifiers will also need to be performed in order to test the relative effectiveness of each.

Our plans call for early resumption of our current studies. These will need to be done in a well-planned, systematic manner. Initially, we plan to expand our studies by using the intravenous form of therapy. Patients will be treated with constant doses of lymphokine. This phase of the study should allow us to determine the relationship between any observed biological response and the useful tumor response. Future studies will proceed along the lines of expanding the intradermal form of therapy and will be followed by Phase II studies of tumor types that appear to be susceptible to lymphokine based on the Phase I studies. Ultimately, assuming that lymphokine continues to show promise, clinical trials in low tumor burden and surgical adjuvant situations will need to be done. Theoretically, stimulation of host anti-tumor systems should be most effective when only a few tumor cells remain after initial therapy.

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Extracranial Injuries in Victims of Blunt Head Trauma

(Continued from page 603)

survival in a small number of patients with the traditionally grave signs of loss of pupillary light response, impairment of oculocephalic reflexes and abnormal motor response to painful stimuli by incorporating principles of early diagnosis, aggressive decompression, careful monitoring, and correction of other aggravating factors such as inadequate ventilation or unstable hemodynamics. In a later study from the same institution, Miller and coworkers[10] found potentially serious systemic insults to brain injury in 44 of 100 patients reviewed. Hypotension, anemia, hypoxia and hypercarbia were implicated as aggravating factors. Similarly, we found 12 patients who had injuries resulting in hypovolemic shock or respiratory impairment that could aggravate a preexisting CNS injury through low cerebral blood flow, hypoxemia or hypercarbia.

Based on our experience as well as that of others, we feel that complete evaluation of their conditions and resuscitation of the head-injured patients in the Emergency Department is essential before computerized scanning, arteriography or neurosurgical operative intervention is undertaken. Although computerized scanning can provide valuable information about the head-injured patient, the radiology suite is not the place to conduct emergency resuscitative measures.

Such efforts require close coordination among the emergency physician, neurosurgeon and trauma surgeon. For seriously injured patients, this is best accomplished in a designated trauma hospital. This demonstrates the value of regionalization of trauma care. As we have demonstrated, multisystem trauma is common when head injuries are found, particularly when they are caused by vehicular accidents. This fact should be kept in mind by both the neurosurgeon and trauma surgeon when evaluating the condition of such patients.

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Pseudocarcinoid Syndrome Due to Medullary Carcinoma of the Thyroid

This article includes a case report of a 23-year-old white man with a seven-year history of undiagnosed flushing and diarrhea. A diagnosis of pseudocarcinoid syndrome due to familial medullary carcinoma of the thyroid (MTC) was made. The authors discuss clinical features, diagnosis, treatment and surveillance of MTC patients.

Dr. Tucker is Director of Gastroenterology and Nutrition at St. John's Mercy Hospital in Washington. Dr. O'Neal is Chairman of the Department of Surgery and Dr. Martin is from the Department of Pathology at St. John's Mercy Medical Center, St. Louis.

MEDULLARY THYROID CARCINOMA (MTC) accounts for 8% of thyroid gland cancer. It is an endocrine tumor of neuroectodermal origin and occurs sporadically and in a familial manner. In its familial presentation, MTC is associated with multiple endocrine adenomatoses (MEA), Types II-A and II-B. MTC usually is seen clinically as a lump in the thyroid gland or anterior neck. The measurement of serum calcitonin serves as a tumor marker. MTC is also capable of secreting multiple polypeptide hormones and biogenic amines including ACTH, serotonin, histamine, prostaglandins and somatostatin, resulting in various endocrine syndromes. Following is a case report of MTC manifesting as a pseudocarcinoid syndrome for seven years prior to a diagnosis:[1, 2]

CASE REPORT

A 23-year-old white man had a seven-year history of flushing and diarrhea. Five to ten minutes after the ingestion of food and/or alcohol, the patient would develop a generalized flush over the entire upper one half of his body, especially on his face. This was followed by right lower quadrant pain with diarrhea. At age 15, the patient had been hospitalized for suspected carcinoid syndrome. Evaluation results were normal and he was told that he had a food allergy. Treatment with multiple diets and antihistamines were of no help. At age 20, the patient's condition was reevaluated at another medical center. Evaluation results for suspected carcinoid syndrome were again normal and no diagnosis was made.

A physical examination showed no abnormalities except for a provocative flush following beer ingestion (Fig. 1) and a palpable nodule in the right lower lobe of the thyroid gland. Basal calcitonin was elevated at 2261 pg/ml (Normal 0-100 pg/ml). Evaluation for MEA II-A and II-B showed a normal 24-hour urine for metanephrines, catecholamines and vanillymandelic acid. Results of a 24-hour urine test for 5 hydroxy indole acetic acid and histamine were normal. Serum calcium, gastrin and thyroid function tests showed no abnormalities. Computerized tomography findings of the adrenal glands were normal.

A total thyroidectomy and central node dissection was done and revealed MTC with metastases to the cervical and superior mediastinal nodes (Fig. 2). C-cell hyperplasia was present throughout both lobes of the thyroid gland (Figs. 3 & 4). Postoperatively, the patient had total resolution of his flushing and diarrhea for two months. Since then, the patient has had intermittent episodes of mild flushing without diarrhea after the ingestion of heavy meals and alcohol. Basal calcitonin remained elevated at 412 pg/ml.

Testing patient's mother and brother with pentagastrin stimulation showed no abnormalities. The patient's father, the presumed proband, had died at an early age.

DISCUSSION

MTC occurs sporadically in 90% of cases, usually in the fifth to sixth decade of life. Sporadic MTC usually affects only one lobe of the thyroid and usually, it is the right lobe. C-cell hyperplasia is absent.

Familial MTC accounts for 10% of cases occurring in the second and third decade of life. Familial MTC is associated with parafollicular C-cell hyperplasia of the entire thyroid gland. The C-cells secrete calcitonin in all cases. Familial MTC frequently exists with MEA II-A and II-B. Pheochromocytomas (usually bilateral) are found in 10% of cases and hyperparathyroidism due to parathyroid hyperplasia is found 60% of the time.

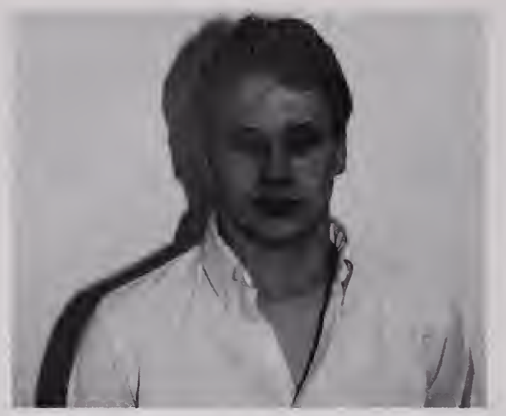

Fig. 1 Provocative flush about the face and chest after beer ingestion.

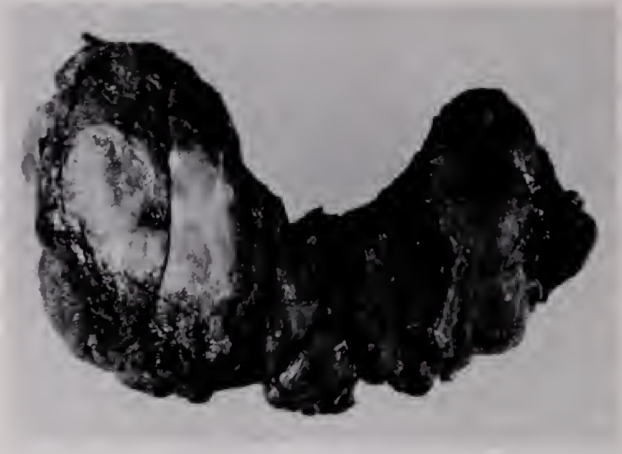

Fig. 2 Anterior view of thyroid demonstrates a large circumscribed mass in the right pole.

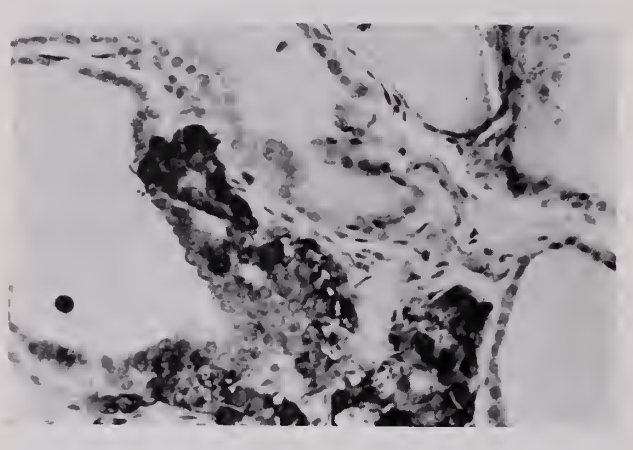

Fig. 3 Non-neoplastic thyroid panenchyma stained with immunohistochemical techniques for calcitonin showing C-cell hyperplasia.

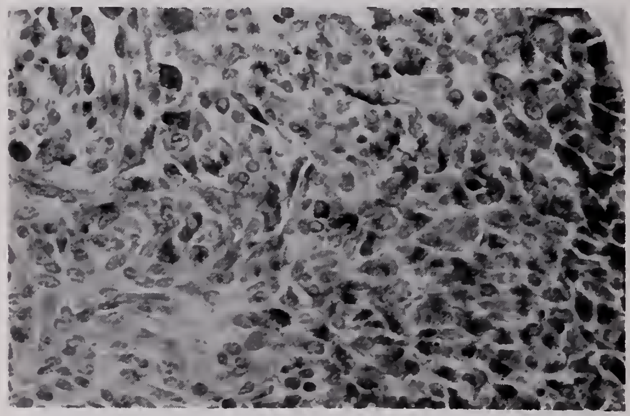

Fig. 4 Immunohistochemical staining demonstrates variable immunoreactive calcitonin in the tumor cells. Darkly stained cells indicate more abundant cytoplasmic immunoreactive material.

Secretion of ACTH and serotonin give rise to Cushing's and carcinoid syndromes. A secretory watery diarrhea occurs in 30% of patients. Rarely, as in our patient, diarrhea and flushing, due to the secretion of unknown biogenic amines can cause a pseudocarcinoid syndrome.

The diagnosis of MTC rests on a strong clinical suspicion, a thorough neck examination, and the use of basal and stimulated calcitonin levels. Palpation of the thyroid gland for a nodule is a more sensitive test than thyroid scanning.[1, 3] If suspected, confirmation of a diagnosis can be made by measurement of the tumor marker, calcitonin. All family members should be screened for parafollicular C-cell hyperplasia or MTC in situ. Inheritance is in an autosomal dominant manner with complete but variable penetrance. Affected family members are usually shown to be asymptomatic after a thyroid examination, but they will exhibit a characteristic rise in basal calcitonin in response to pentagastrin and/or calcium gluconate infusion.[4, 5]

Treatment of MTC is total thyroidectomy and lymph node dissection, if needed, by an experienced endocrine surgeon.[6] It is imperative to exclude the presence of pheochromocytoma to avoid operative complications such as arrhythmia, hypotension and hypertension. Chemotherapy is of little value.[7] Survival rate is poor for those with symptomatic disease. Unfortunately, the presence of a palpable thyroid nodule usually means positive neck nodes. In the Mayo clinic experience, the ten-year survival of patients without nodal metastases was 86% compared with 40% survival for those with nodal metastases.

(Continued on page 620)

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Diagnosis and Management of Diabetic Retinopathy

Case Reports

Because of the increased longevity of diabetics, diabetic retinopathy and its complications have become the leading causes of new blindness in individuals under 65 in the United States. Despite the widely publicized results of the Diabetic Retinopathy Study (DRS)[1-4] that demonstrated that photocoagulation of eyes with proliferative retinopathy was significantly effective in preventing severe visual loss, many potentially treatable diabetics continue to go undiagnosed and frequently have advanced stages of retinopathy.

In our experience, either because of the physician's or patient's unawareness, about 10% of diabetics seen in the ophthalmology clinic initially have vitreous hemorrhage or traction retinal detachment that is no longer treatable by photocoagulation alone and require vitrectomy or other surgical procedures. Recent reports suggest that physicians involved in the primary care of diabetics fail to diagnose proliferative diabetic retinopathy in a significant percentage of cases even under ideal examination conditions (i.e., dilated pupil and unlimited time). Internists, medical residents and diabetologists made the correct diagnosis of proliferative retinopathy in only 27%, 31% and 36% of cases, respectively.[5]

The purpose of this article is to point out guidelines that will help to select the diabetic who is at high risk for developing proliferative retinopathy and to discuss methods of examination that facilitate making the diagnosis.

Fundus Examination

Fundus examination through a miotic pupil, particularly in elderly individuals who may have lenticular opacities, is often frustrating and unproductive. Pupillary dilation will greatly facilitate the examination and increase the probability of seeing areas of pathologic conditions. We recommend that a drop of tropicamide 1% and phenylephrine 2.5% will give maximum dilation within 20 minutes. An ophthalmoscope with a halogen bulb light source and fully charged battery will insure the best illumination. Having optimized the examination with pupillary dilation and a good ophthalmoscope, finding areas of pathology should be relatively easy.

Diabetic retinal changes are typically limited to the posterior pole and midperipheral retina, which are areas clearly visualized with the direct ophthalmoscope. By developing a pattern of scanning the fundus during the examination, one can be certain that the whole retina to the midperiphery is visualized. A suggested method is illustrated in Fig. 1. The patient's right eye is examined with the examiner's right eye with the examiner holding the ophthalmoscope with the right hand. The patient is asked to look at a distant target straight ahead. The optic disc is first visualized and examined. Next, by turning his head and ophthalmoscope, the examiner follows the superior vascular arcade temporal to the macula and then back to the optic disc. The same sweeping scans are repeated in a clockwise fashion as illustrated in Fig. 1. When the light is directed on the macula, the patient is often "dazzled," which results in tearing and blinking. By examining the

Although diabetic retinopathy cannot be prevented at this time, there are measures that can be taken to significantly influence the course of this disease and decrease the risk of blindness. This article provides guidelines that will help to recognize the diabetic who is at high risk for developing proliferative retinopathy. The authors also discuss methods of examination that will facilitate making the diagnosis.

The authors are from the Department of Ophthalmology, University of Missouri-Kansas City.

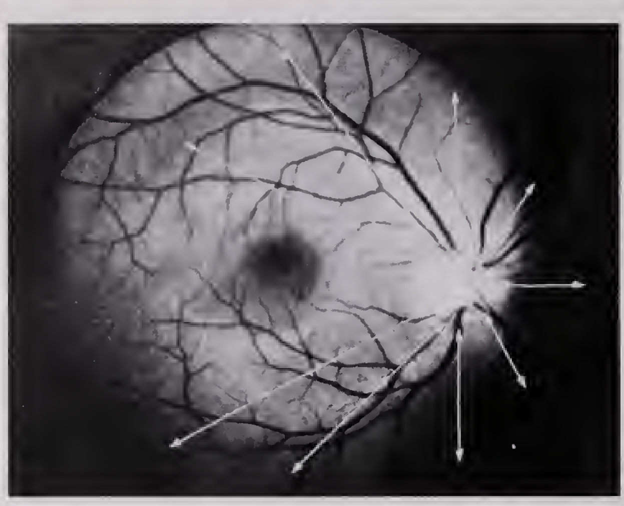

Fig. 1 Normal fundus photograph. Arrows indicate pattern of scanning during examination.

macula last, better cooperation is obtained. Keeping the optic nerve as a point of reference will maintain orientation and areas of pathology can be described by their relationship to the optic disc. The midperiphery is seen by asking the patient to look slightly in the direction to be examined.

Examinations of the retina with monochromatic illumination offers certain advantages over examinations with white light. Monochromatic illumination will enhance contrast as well as improve depth localization. Hemoglobin has a high absorption for wavelengths in 550-580 nm range (green-yellow light). Green monochromatic light also is scattered minimally in the inner retinal layers and provides a bright background for viewing the retinal vessels. Most ophthalmoscopes come equipped with a green filter that is ideal for viewing the retinal vasculature and will help to identify fine neovascularization.

DIABETIC RETINOPATHY

Diabetic retinopathy is classified into two forms: nonproliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). In NPDR, intraretinal microaneurysms, hemorrhages and exudates dominate the picture, whereas PDR is characterized by neovascularization and fibrous tissue proliferation. Macular edema (with hemorrhages and exudates) is the main complication of the nonproliferative type; vitreous hemorrhage and traction retinal detachment complicate the proliferative form. The age of onset of diabetes mellitus is the most important determinant in regard to the type of retinopathy as well as the rapidity of development and progression.

In a large study (5,818 eyes), 81% of eyes in patients with juvenile onset diabetes mellitus (JODM) developed PDR in contrast to 41% of those with onset of disease in the sixth decade.[6] Although the JODM patient is clearly at a higher risk of developing PDR, the AODM patient is also at a high risk and this is regardless of insulin dependence. In JODM (onset before age 20), less than 2% of patients will develop diabetic retinopathy during the first ten years of the disease. In contrast, of those with AODM in the sixth decade of life, approximately 30% to 40% will develop some form of retinopathy during the same time period. Decreased ability of the elderly vasculature to compensate for the biochemical stresses of diabetes mellitus and a prolonged occult period of chemical diabetes are two theories that have been proposed to explain the difference.

Ocular examinations should be performed at yearly intervals during the first few years of the disease and at shorter intervals after ten years. It is not unusual for a retinopathy that had previously been documented as stable to progress rapidly in later years. Therefore, there is the need for more frequent examinations with increasing age of disease. The case presented in Figs. 2A-E illustrates this point.

Panretinal photocoagulation treatment of eyes with proliferative diabetic retinopathy reduces the risk of severe visual loss by more than 50%. Selected cases of background retinopathy with

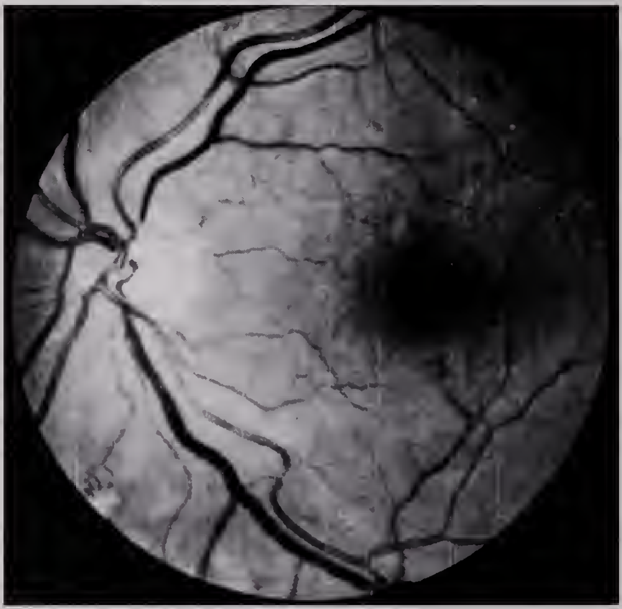

Fig. 2-A Left fundus photograph showing few dot and blot hemorrhages.

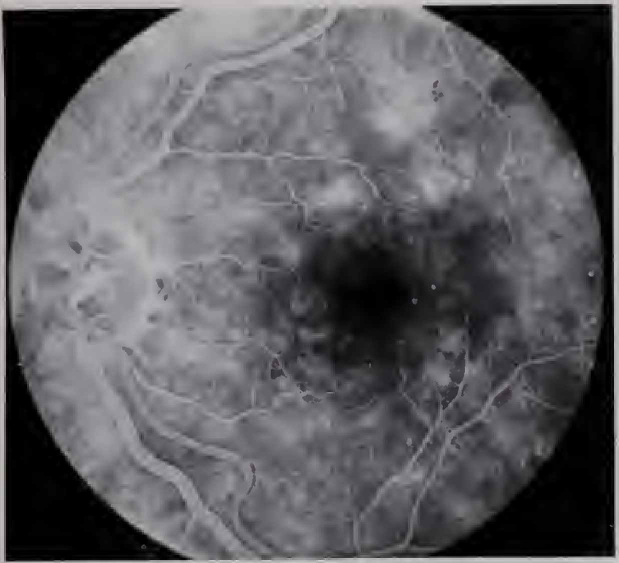

Fig. 2-B Fluorescein angiogram demonstrating scattered microaneurysms.

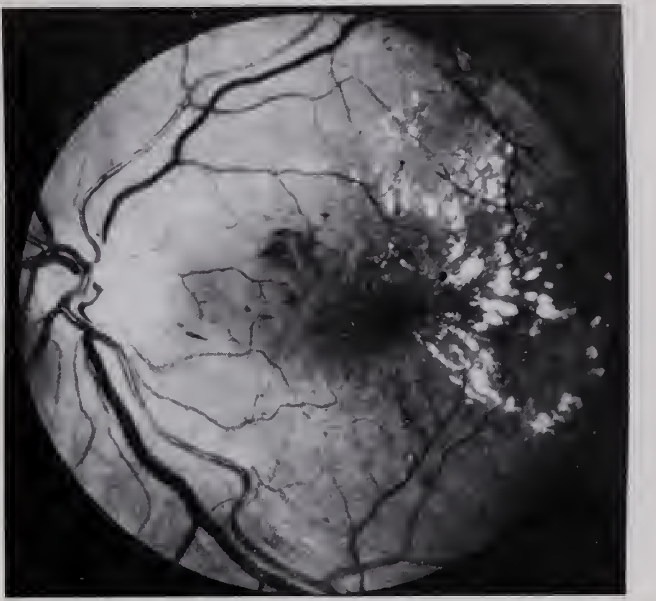

Fig. 2-C The same retina one year later with many hemorrhages and exudates.

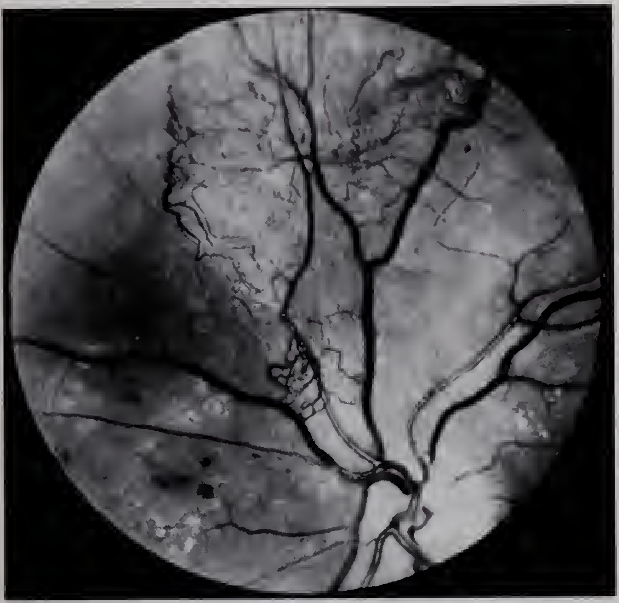

Fig. 2-D Superior to the optic disc, a large frond of surface retinal neovascularization is present.

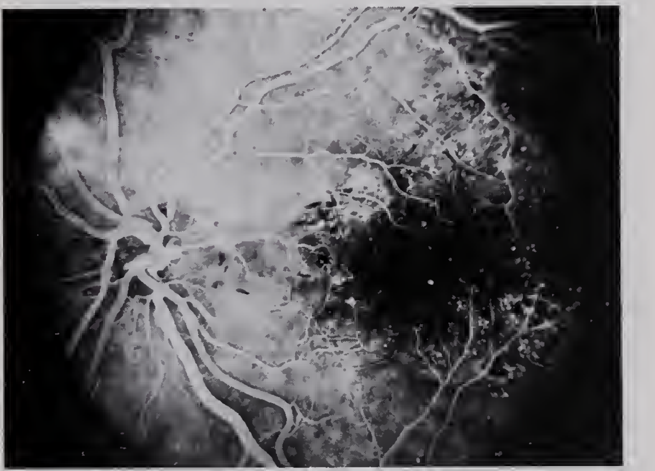

Fig. 2-E Fluorescein angiogram demonstrates many microaneurysms and areas of capillary nonperfusion.

macular involvement also benefit from photocoagulation. Cases of three patients treated with photocoagulation are illustrated as follows:

Case Reports

Case #1 A 30-year-old man with JODM for 16 years presented in January, 1977 with 20/20 vision in each eye. A fundus examination showed only minimal background diabetic retinopathy (Figs. 2A & B). One year later, the visual acuity remained good at 20/25 in each eye, but the diabetic retinopathy had progressed drastically to a degree for which photocoagulation treatment was indicated. Increased hemorrhages and hard exudates were present in the macula (Fig. 2C). In the midperiphery of each retina, multiple areas of neovascularization were visible (Fig. 2D). Fluorescein angiography showed microaneurysms and areas of capillary nonperfusion (Fig. 2E). Four years after photocoagulation treatment, the visual acuity is stable at 20/30.

Case #2 A 47-year-old woman with diabetes mellitus for 29 years complained of floaters in the left eye. Visual acuity was 20/20 in each eye. A fundus examination showed red blood cells in the vitreous cavity and a large frond of new vessels on the optic disc (Fig. 3A). Fluorescein angiography clearly demonstrates the neovascular membrane that leaks dye in the later phases (Figs. 3B & C). Panretinal photocoagulation was performed in two sessions in which 839 spots that

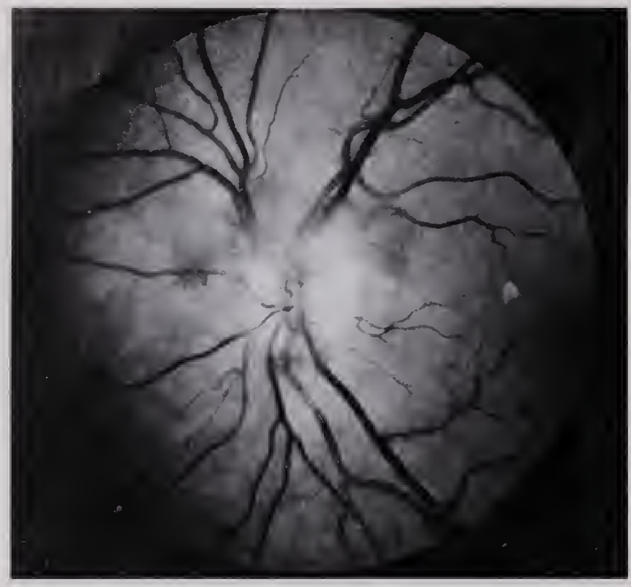

Fig. 3-A Left fundus photograph shows a large neovascular frond extending from the optic disc into the vitreous.

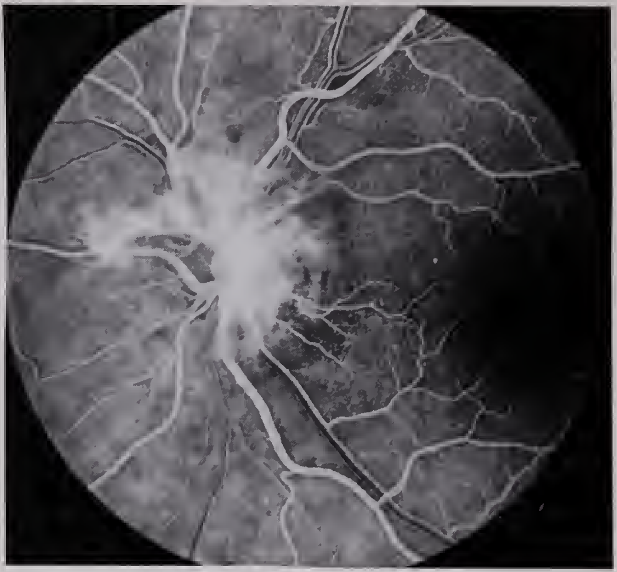

Fig. 3-B Early phase of the fluorescein angiogram demonstrates the full extent of the membrane.

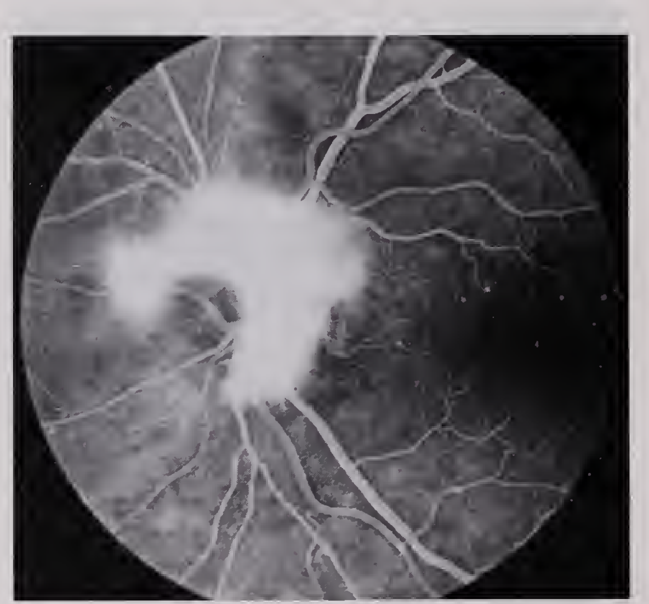

Fig. 3-C Late phase angiogram shows significant dye leakage.

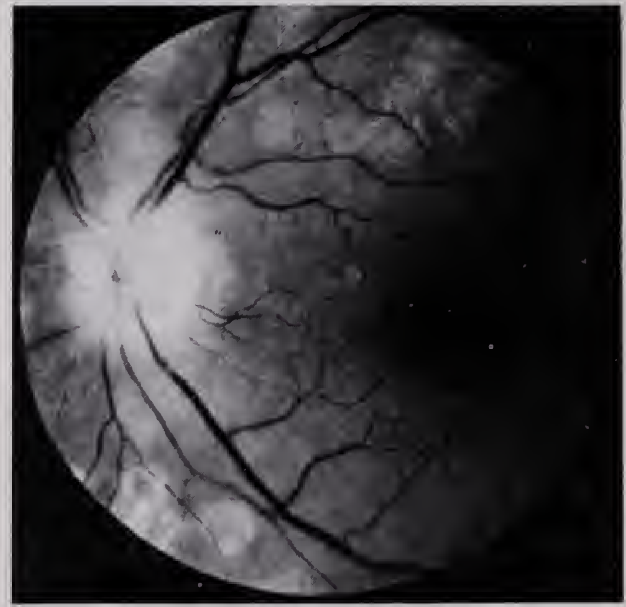

Fig. 3-D Fundus photograph following panretinal photocoagulation demonstrates regression of the new vessels. A fibrous membrane remains on the optic disc. Photocoagulation scars are seen above and below the optic disc.

were 500 micron in size were used in the treatment. One month after treatment, the vision was 20/25. Fundus examination and fluorescein angiography revealed regression of the new vessels (Figs. 3D & E). Three years later, the visual acuity remained at 20/25 without evidence of proliferative retinopathy.

Case #3 A 49-year-old woman with AODM had decreasing vision in the left eye. Visual acuity was 20/40. A fundus examination revealed scattered intraretinal microaneurysms and many hard exudates that extended into the macula (Fig. 4A). Following focal photocoagulation treatment aimed at destruction of the leaking aneurysms, vision improved to 20/20. Over a period of several months, the lipid exudates had regressed significantly (Fig. 4B).

Although diabetic retinopathy cannot be prevented at this time, there are measures that can be taken that will significantly influence the course of disease. Strict control of blood glucose levels and management of coexisting hypertension will not only retard the development of ret-

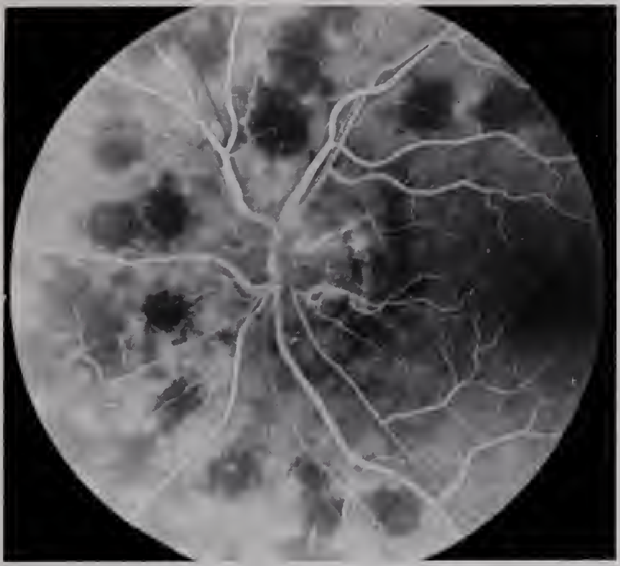

Fig. 3-E Angiogram shows regression of neovascularization.

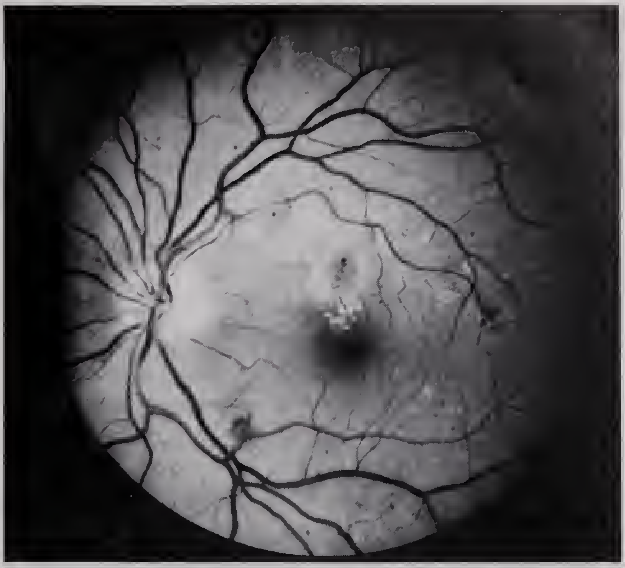

Fig. 4-A Left fundus shows scattered microaneurysms and many hard exudates due to chronic leakage.

inopathy but also lessen its severity.

Careful routine funduscopic examinations through a dilated pupil are essential for early diagnosis and referral to an ophthalmologist who understands the management of diabetic retinopathy is recommended once the disease has been detected. Prompt photocoagulation treatment of cases with proliferative retinopathy will greatly decrease the risk of blindess.

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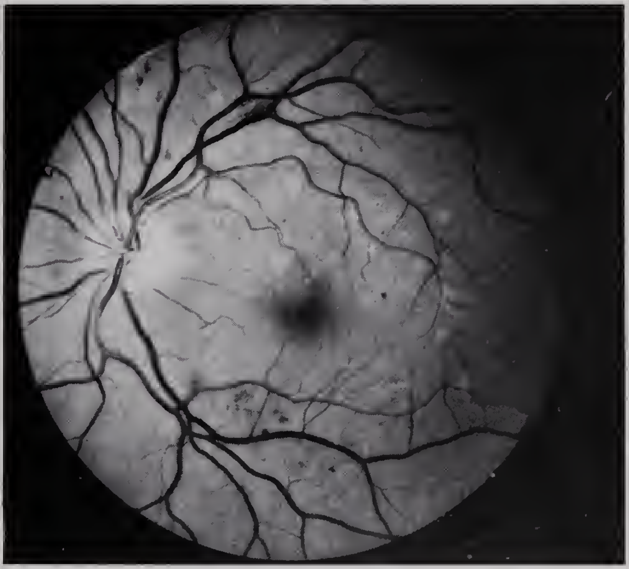

Fig. 4-B Regression of the exudates after destruction of the aneurysms with photocoagulation.

It is the studying you do after school days that counts. Otherwise, you only know what everyone else knows. — HENRY L. DOHERTY

WALTER HARVEY JACOBS, M.D., *Kansas City*

Endoscopic Laser Therapy for Gastrointestinal Disorders

During a period of 18 months, 20 patients referred with bleeding upper gastrointestinal lesions, carcinoma of the esophagus, vascular malformations and colon tumors received Neodymium Yag Laser therapy at gastrointestinal endoscopy. The bleeding lesions (four) were controlled, some only temporarily. Dysphagia due to esophageal lesions (three) was relieved. The colon tumors (12) have disappeared in most cases or have been greatly reduced in size. The complication rate has been minimal.

Dr. Jacobs is head of the Goppert Gastroenterology Laboratory and Co-Director of the Laser Institute of Kansas City at Menorah Medical Center.

In 1981, we received approval from our hospital's Institutional Review Board and then from the United States Food and Drug Administration to begin a study using the Neodymium Yag Laser (Nd Yag or "Yag") for the control of massive and/or persistent gastrointestinal (GI) hemorrhage in patients with an absolute or relative contraindication to surgical therapy. Subsequently, we received approval to use the instrument to treat benign and malignant tumors of the digestive tract in patients (1) whose malignancy was so extensive that cure by standard measures was not feasible, (2) patients whose medical condition made them a "high risk" patient for surgical procedure, or (3) patients who rejected standard forms of treatment including surgery. The Neodymium Yag Laser is considered an experimental device.

Patients

All patients were referred by other physicians and surgeons, frequently from other institutions. A member of the Department of Surgery at Menorah Medical Center was involved in the management of every patient. A member of the Oncology Section of the Department of Medicine was consulted about every patient with a malignant tumor. Consultation with the Department of Radiation Therapy was obtained for all patients

TABLE 1
UPPER GASTROINTESTINAL BLEEDING

	Age-Sex	*Number of Laser Sessions*	*Complications of Laser Therapy*	*GI Lesion*	*Other Medical Problems*	*Initial Results*	*Long-Term Follow-up*
#1	**69/F**	**1**	**None**	**Two bleeding stress ulcers of stomach**	**Status post removal of brain tumor**	**Bleeding stopped**	**Home 35 days later**
#2	**51/M**	**1**	**None**	**Bleeding duodenal ulcer**	**Lymphoma/ chemotherapy, Crohn's Disease**	**Bleeding stopped**	**Rebled in 12 hours. Surgery successful Home 11 days later**
#3	**98/M**	**1**	**None**	**Bleeding duodenal ulcer**	**Recent unsuccessful ulcer surgery**	**Bleeding stopped**	**Pyelitis, sepsis, and bleeding "stress ulcer." Died 31 days post-Yag**
#4	**59/F**	**1**	**None**	**Bleeding gastric ulcer/Z-E Syndrome**	**Prior "Hill Operation" and COPD**	**Bleeding stopped**	**Home in 17 days**

TABLE 2
MULTIPLE HEMORRHAGIC TELANGIECTASIAS

	Age/Sex	*Number of Laser Sessions*	*Complications of Laser Therapy*	*GI Lesion*	*Other Medical Problems*	*Initial Results*	*Long-Term Follow-up*
#1	39/M	2	None	Bleeding telangiectasias of ileum and colon	Multiple benign colon polyps	Bleeding stopped and recurred . . . then appeared to stop	Ileal resection tolerated well and home 12 days later. No bleeding for one month since last laser session

TABLE 3
ADVANCED ESOPHAGEAL CARCINOMA

	Age/Sex	*Number of Laser Sessions*	*Complications of Laser Therapy*	*GI Lesion*	*Other Medical Problems*	*Initial Results*	*Long-Term Follow-up*
#1	79/M	4	None	Obstructing adenocarcinoma of stomach & esophagus	Recent MI, Pulmonary emboli	Swallowed without difficulty	Died five weeks later from pulmonary emboli
#2	57/F	15	Esophagobronchial fistulae	Totally obstructed squamous cell carcinoma of the upper 1/3 of esophagus	Generalized metastases, Prior Radiation Therapy, Esophagobronchial fistulae	Transient relief of dysphagia	Died due to sepsis, esophagotracheal fistulae and lung abscess 15½ weeks after starting laser therapy
#3	64/M	Two series (a) 9 sessions (b) 4 sessions	None	Subtotally obstructing carcinoma of distal 1/3 of esophagus	Cirrhosis with varices and hypertension	Relief of dysphagia for five *months.* Good relief of dysphagia with second series too	Exsanguination from aortoesophageal fistula 55 days after last laser therapy

with malignant esophageal disease.

Four patients were referred for treatment of upper GI bleeding (Table 1). One patient was sent for help in controlling recurrent lower intestinal bleeding from multiple hemorrhagic telangiectasias (Table 2). Three patients were recommended to us for palliative therapy of advanced esophageal carcinomas (Table 3). Yag Laser therapy was suggested for an additional 12 patients with sizeable benign (villous adenomas) or malignant colonic neoplasms (Table 4).

TECHNIQUE

Laser is an acronym for Light Amplification by Stimulated Emission of Radiation. A laser may contain a medium that is gaseous (Argon) or crystalline (Neodymium suspended in YAG crystal — YAG is a mixture of yttrium, aluminum and garnet). The atoms in the medium are contained between two mirrors with one totally reflecting and the other partially transmitting and permitting the laser beam to come out. In the "Yag" an external light source of high energy excites the atoms that then emit a monochromatic (one-color frequency), coherent (nondivergent) beam. The laser beam comes out the partially transmitting mirror and then is carried by a flexible quartz fiber to an object (e.g., bleeding ulcer or tumor). The Yag laser is especially applicable to intestinal bleeding problems. Because of properties of its

TABLE 4
COLON TUMORS

	Age/Sex	*Number of Laser Sessions*	*Complications of Laser Therapy*	*GI Lesion*	*Other Medical Problems*	*Initial Results*	*Long-Term Follow-up*
Right Colon							
# 1	86/M	27	None	Obstructing bleeding Ca of hepatic flexure	Diabetes mellitus & "TIAs"	Relief of obstruction and control of bleeding	Alive and working 17 months after first laser session
# 2	66/F	2	None	Villous adenoma of proximal transverse colon	Prior breast carcinoma	Lesion apparently removed totally	Well five months after first laser session
# 3	80/F	2	None	Two villous adenomas of ascending colon and one villous adenoma of hepatic flexure		Small residual adenoma of hepatic flexure, ASHD, TIAs, other adenomas apparently removed in toto	Clinically well three months after first laser session
# 4	89/F	1	Small linear perforation of sigmoid colon	Villous adenoma with "in situ" Ca of cecum	ASHD, TIAs, cardiac arrhythmias	Home 17 days after surgical repair of colon	No recurrent tumor (air contrast BE) four months after first laser session
Left Colon							
# 5	79/F	2	None	Villous adenomas of sigmoid colon	HCVD, TIAs, cardiac arrhythmias	Done as outpt.	Well 11 months after 1st laser treatment
# 6	80/F	2	None	Polypoid carcinoma of sigmoid colon	Prior Ca of breast	Done as outpt.	Well eight months after 1st laser treatment
# 7	80/M	1	None	Villous adenoma of sigmoid colon	ASHD, CAS	Done as outpt.	Well five months after 1st laser treatment
# 8	67/F	1	None	Polypoid carcinoma of recto-sigmoid	Prior SBE, with two prosthetic heart valves	No problems	Well three months later
# 9	80/M	2	None	"Villous carcinoma" of sigmoid	HCVD, Rheumatic heart dis., cardiac arrhythmias	Done as outpt.	Well two months after 1st laser treatment
#10	79/M	1	None	"Villous carcinoma" of recto-sigmoid	ASHD with old MI & prior colon carcinoma	Home one day after laser R_x	Well two months after 1st laser treatment
#11	81/M	2	None	"Villous carcinoma" of recto-sigmoid	ASHD with old MI's	Home one day after laser R_x	Well one month after 1st laser treatment
#12	63/F	1	None	Residual villous adenoma	ASHD	Done as outpt.	Well ten months after 1st laser treatment

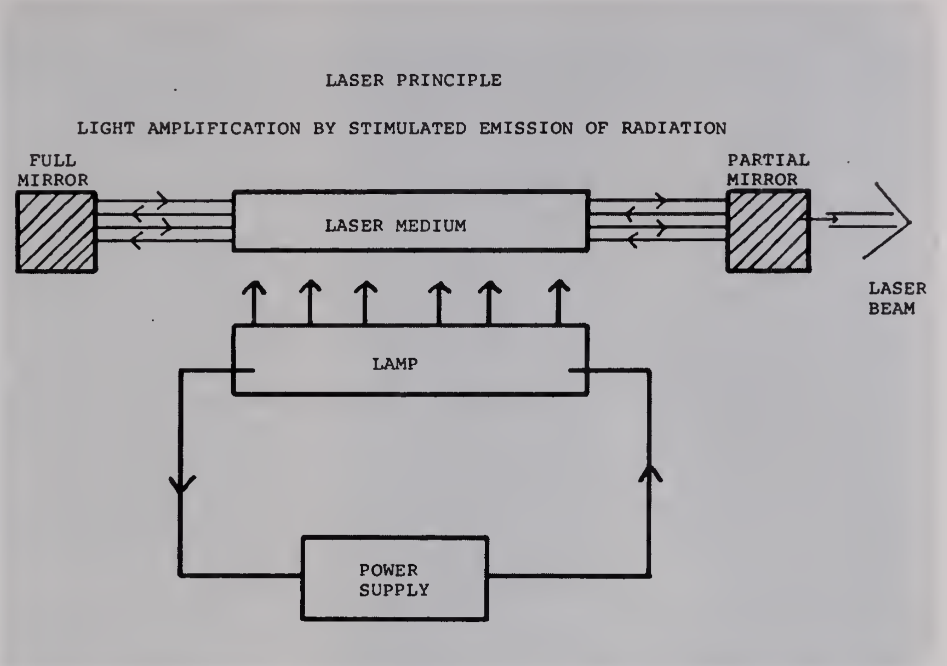
LASER PRINCIPLE
LIGHT AMPLIFICATION BY STIMULATED EMISSION OF RADIATION
FULL MIRROR
PARTIAL MIRROR
LASER MEDIUM
LASER BEAM
LAMP
POWER SUPPLY

Fig. 1 Diagram demonstrates mechanism of creation of a laser beam.

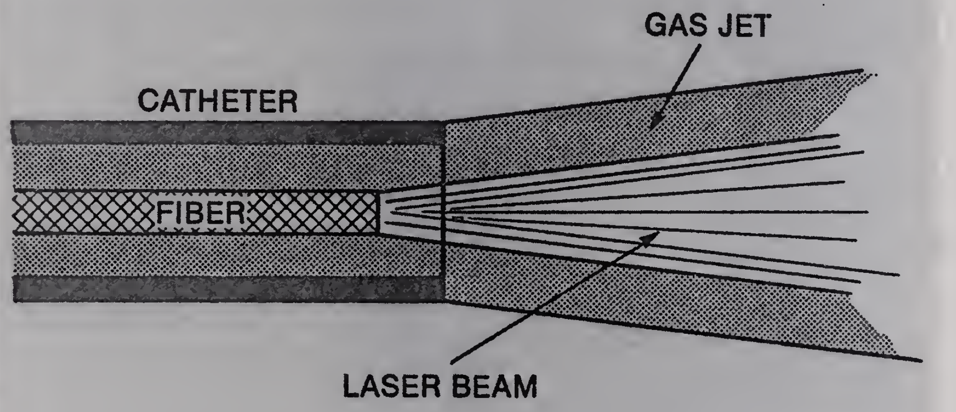
GAS JET
CATHETER
FIBER
LASER BEAM

Fig. 2 Diagram of catheter containing fiber transmitting laser beam.

light beam, the emitted light is of a wave length short enough to allow it to be transmitted by a fiberoptic system. It also tends to be less absorbed by soft tissue, resulting in more tissue coagulation and hemostasis (Fig. 1).

We have used the Molectron 8,000 Neodymium-Yag Laser exclusively in this study. A special "carrying fiber," a triaxial fiber, is provided with the instrument. The inner quartz portion of the fiber conducts the laser beam. The middle portion carries a Krypton target light to illuminate the area that will be hit by the laser since the Yag Laser is invisible to the eye. The outer hollow casing carries a jet of air or CO_2 to blow away debris from the tip of the fiber and to cool the tip (Fig. 2).

For the management of upper GI bleeding and esophageal tumors, we have utilized both two-channel (large width) and one-channel (intermediate width) fiberoptic endoscopes. Instruments used are the Olympus GIF 2T, QX and Q scopes. For lower GI bleeding, we have used both two-channel and one-channel colonoscopes that are the Olympus TCG 2L2 and LB3W.

For upper GI endoscopy, endoscopy patients received a local oropharyngeal anesthetic — 1% dyclonine hydrochloride (Dyclone) gargle. All patients were sedated with varying amounts of in-

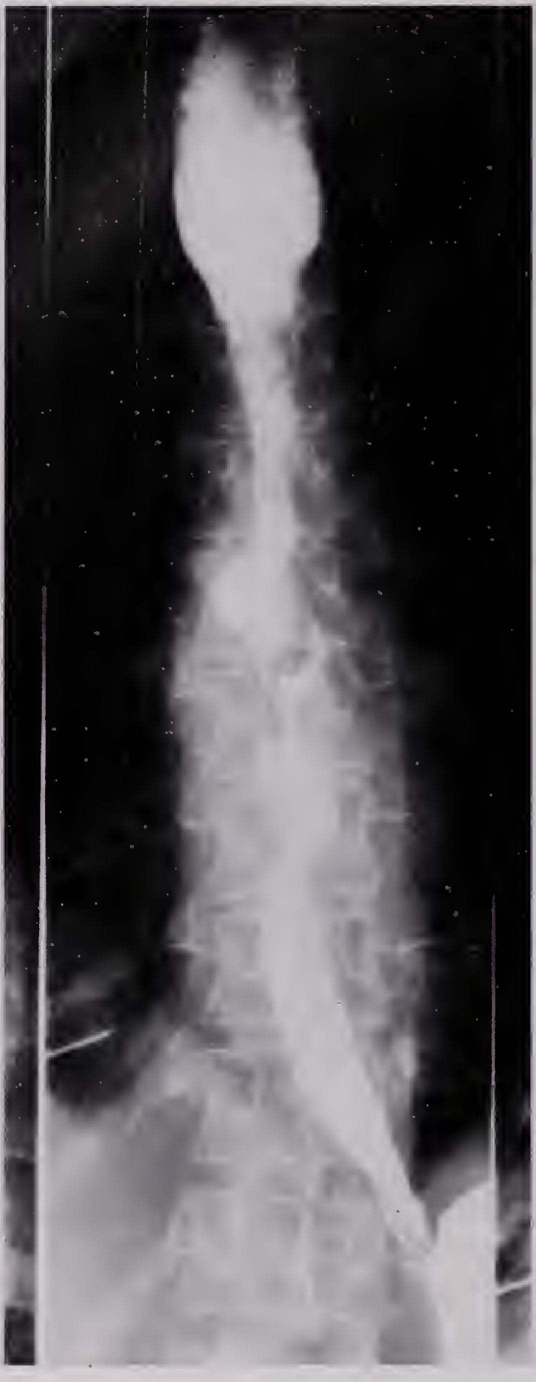

Fig. 3 X-ray of patient with esophageal carcinoma (Upper one third) after temporary establishment of a lumen.

travenous meperidine, dimenhydrate (Dramamine), and diazepam. For colonoscopy, intravenous glucagon was frequently used to reduce motility.

RESULTS

Upper GI Hemorrhage — All four patients with upper GI hemorrhage stopped bleeding in response to Yag Laser therapy (Table 1). Two patients, one with "stress ulcers" after brain surgery and one with a bleeding gastric ulcer in association with a previously unrecognized Zollinger-Ellison Syndrome, have not bled again; they have recovered and have been dismissed from the hospital.

A 98-year-old man with a duodenal ulcer that continued to bleed after surgery (ligation of bleeding vessels and a vagotomy and pyloroplasty) did not bleed for four weeks. During that period, he required a transurethral resection of the prostate and subsequently developed severe sepsis. Thirty-one days after the successful laser treatment to the duodenal ulcer, the patient died, septic, of a massive GI hemorrhage. We could not tell at autopsy if the bleeding vessel found was in the original duodenal ulcer that had not healed or in a new "stress ulcer" adjacent to the original one.

The fourth patient with a bleeding duodenal ulcer and a lymphoma (for which he was receiving treatment by chemotherapeutic agents) stopped bleeding after laser therapy, but he began to bleed vigorously 12 hours later. Surgery was chosen rather than repeat laser therapy. A sizeable artery in the ulcer base was ligated at the time of surgery, and a vagotomy and truncal vagotomy were performed. Recovery was uneventful except for a minor upper GI bleeding episode.

All three patients with carcinoma of the esophagus have died and all have been studied by postmortem examination (Table 3). Two of the three obtained excellent palliation in that they could swallow most foods quite well prior to their death. Autopsy findings supported this (i.e., the lumens were quite patent in those two patients). (One patient died with multiple metastases and terminal pulmonary emboli; a second died with multiple metastases and a terminal aorto-esophageal fistula hemorrhage.)

The other patient was seen late in the course of her disease. She had a squamous cell carcinoma of the upper and middle third of the esophagus with extensive generalized metastases. She had completed a full course of external radiation therapy and, when seen, had a totally obstructed esophagus. We were able to establish a small esophageal lumen so that she could swallow for 2½ weeks (Fig. 3). However, as we continued to "laser" down the esophagus, we encountered a necrotic cavity. This connected the esophagus and the trachea, and we were never able to find the opening to the distal portion of the esophagus to insert a stent. Surprisingly, with the small upper esophageal lumen and despite the tracheoesophageal fistula and three small esophagobronchial fistulae that we created trying to find the distal lumen, the patient was reasonably comfortable in response to medication and hyperalimentation. She died, septic, with a purulent lung abscess approximately one year after her original diagnosis of esophageal carcinoma.

The 12 patients with colon tumors are all alive (Table 4). These include four patients with right colon tumors (proximal to the splenic flexure). Two with large villous adenomas appear to have had total removal of tumor as evidenced by endoscopy and x-ray. One is due for a six-month follow-up.

The most noteworthy patient is an active 86-year-old businessman who has diabetes and has had several transient cerebral ischemic attacks. He had a stenotic, bleeding carcinoma of the hepatic flexure that was discovered in May, 1982. Surgery was adamantly rejected, yet he accepted colonoscopic Yag Laser therapy. Since that time, he has had periodic laser treatments (now about every three to four weeks). He is free of discomfort, maintains a stable hemoglobin level at about 11 gm and visits his place of business for several hours a day.

There was one complication in a patient in the colon laser group. A linear tear occurred in the upper sigmoid colon of one of the patients who received laser therapy for a villous adenoma of the cecum. The colon on the left was fixed by adhesions and a tear occurred adjacent to these adhesions. The colonic tear was discovered as the scope was being removed. The condition was immediately treated by suturing at surgery. Recuperation was uneventful.

The patient with the multiple hemorrhagic telangiectasias (Table 2) was 39 years old when we first saw him. He began bleeding at age 6. He continued to bleed from the ileum after our first Yag Laser treatments. The patient had had prior surgery with a side-to-side ileocolic anastomosis and we were unable to enter the ileum. Therefore, surgery and ileal resection (with end-to-end anastomosis) was suggested and performed. Recurrent colon bleeding occurred after this operation. After a recent Yag Laser treatment to telangiectasias in the colon, bleeding seems to have stopped (but this may be only a coincidence rather than a response).

Discussion

Keifhaber introduced endoscopic Yag Laser therapy for upper GI bleeding in 1975.[1] A recent review of the major controlled studies would indicate that the results are significantly superior to controls.[2] The rebleeding rate is about 20%, but this is frequently controlled with repeat endoscopic laser therapy. Complications reported include perforation, exacerbation of bleeding and complications associated with an endoscopy or sedation, e.g., aspiration pneumonia. The serious complication rate from the procedure should be under 5%.

Experience with Yag Laser therapy for esophageal carcinoma is much more limited in regard to numbers of centers performing the procedure, number of patients being studied and the time of follow-up therapy. However, we know that palliation can be achieved for many patients by skilled endoscopists who have learned to apply Yag Laser therapy.[3-10] More difficulty is experienced when lesions are located in the upper half of the esophagus, when there has been prior radiation therapy to the esophagus and when the esophagus is adherent to the trachea or the bronchus, particularly the left main stem bronchus. Complications such as perforation of the esophagus or the occurrence of tracheoesophageal or bronchoesophageal fistulae can be expected in 15% to 20% of cases.

Experience with the treatment of colorectal tumors and, in particular, lesions in the right colon is even more limited.[3, 4, 6, 11] The available consensus of worldwide experience, however (as reported at the Fifth International Laser Congress of Medicine & Surgery held in Detroit, Mich. in October, 1983), would lead one to conclude that laser therapy may be used to control hemorrhage, maintain lumenal patency, and reduce tumor mass in advanced enteric cancer. Also, Yag Laser therapy offers a nonsurgical technique for removing large, flat villous adenomas and other flat residues of sessile polypoid lesions. A shortcoming of the procedure would be the lack of total specimen for examination by the pathologist. Therefore, there can be no guarantee that every bit of tumor tissue has been removed. Complications from this procedure include bowel perforation, development of uncontrollable bleeding, sepsis, and "benign pneumoperitoneum." Experience with colonic tumor laser therapy is too limited to predict the complication risk except to say that it would seem to be "low."

Needless to say, there is no good treatment available for the patient with multiple hemorrhagic telangiectasias of the GI tract. Laser therapy is promising, but Argon Laser would appear preferable to Yag. Argon is well absorbed and will coagulate the superficial telangiectatic vessels. Also, it is less penetrant. Therefore, there is less risk of perforation with Argon than with Yag.[12-15]

Summary

1. With the availability of a skillful GI endoscopist who has become familiar with laser equipment, use of the Neodymium Yag Laser appears to be an alternative approach to the management of the hemorrhaging patient who would be considered a bad risk for a surgical procedure.

2. Photocoagulation by Yag Laser for palliation of advanced esophageal cancer appears to offer a fairly safe option for a miserable patient who is unable to swallow.

3. Yag Laser therapy can be offered to patients with colorectal tumors (a) for palliation of extensive bleeding or obstructing lesions and (b) for possible cure of large villous adenomas or flat residua of sessile polypoid tumors that are both benign and partially malignant.

4. Yag Laser may help control bleeding from multiple hemorrhagic telangiectasias, but Argon Laser is safer and would seem preferrable.

Addendum

Since the initial submission of this manuscript, seven additional patients with carcinoma of the esophagus and five additional patients with carcinoma of the colon or villous adenoma have been treated successfully with Yag laser. In addition, five patients with vascular malformations of the GI tract (from which bleeding has occurred) have been treated with Agron laser. No complications have occurred and the results have been excellent.

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Pseudocarcinoid Syndrome Due to Medullary Carcinoma of the Thyroid

(Continued from page 608)

Asymptomatic patients identified by screening techniques tend to be young and have an excellent prognosis, emphasizing the need for family screening. Surveillance using basal and stimulated calcitonin assays should be done postoperatively with MTC on a yearly basis on all patients and family members.

Family members who are found to have MTC should be screened yearly with plasma catecholamines, urinary metanephrines and vanillymandelic acid, serum calcium and parathormone, and adrenal tomography.[7]

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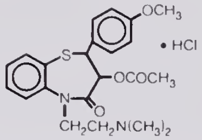

Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGDT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGDT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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MSMA Auxiliary

It is my pleasure as president to introduce Mrs. John Mitchell of Kansas City, MSMA Auxiliary Legislative Chairman, who presents thoughts from the Auxiliary this month.

Mrs. Richard Bowles
President

PROJECT MEDVOTE

As the Missouri State Medical Auxiliary Legislation Chairman, I would like to report that my 24-hour trip to Washington, D. C. was taken in stride and all that was outlined by the AMA letter of intent was accomplished. In reality, I must confess that what really happened to me was a rebirth of patriotism and an awakening of the need to be a part of what will happen in the coming years. To quietly sit in the U. S. Senate and House, to hear your voice echo in the halls of the National Capitol, to stand in front of the Washington Monument with American flags surrounding you and the U. S. Army Band playing the National Anthem is inspiring enough to not only make you vote but to become a candidate.

Leave it to the AMA leaders to bring us back to reality and the business at hand, Project MEDVOTE. This program is designed by the AMA to identify unregistered members, spouses and family members, have them register to vote and encourage their *active* participation in the 1984 general elections. Although our founding fathers intended that the majority of the people would determine the vote, it unfortunately seems that the minority rules most often today.

As one of the larger and most regulated professions in this country, Medicine must be concerned about the coming elections.

Thirty-three U. S. senators, 435 U. S. representatives, 13 state governors, and multiple state and local officials will be elected. If physicians, their spouses and family members are not registered to vote, the voice of the Medical Profession will go unheard yet another year. In these times of "Baby Doe," Third Party Reimbursement and DRGs, the physician cannot afford to sit back and hope that others will vote for the right ticket and change the course of history.

The AMA MEDVOTE project is simple in principle but almost overwhelming in scope. In a pilot study, it was determined that 40% of the AMA members in one state are not registered to vote. When we consider that the AMA has 350,000 active members and the Auxiliary, it is easy to understand the impact that *could* be made by the Medical Block. Twenty years ago, there were the AFL and CIO and, then, AMPAC. Now, more than 3,700 political action groups have organized. In spite of medicine's leadership in political action, today we do not stand out more than any other group. It is crucial, therefore, that we find a way to be heard in the political arena.

Although money "speaks," it is becoming apparent that most candidates can get financial backing when needed. What they desire and need most are votes and manpower at the polls.

Some lawmakers tend to think that they have the right and the qualifications to

(Continued on next page)

practice medicine in the courthouses and state capitols. Members of the medical community must now decide, with conviction, that they cannot practice law, but they can help to determine the people (and their principles) who are elected and, thereby, influence the mood of the government.

Between now and October, we in Missouri will attempt to register all physicians, their spouses and families. Because of varying regulations regarding modes of registration, each county's campaign will vary. MEDVOTE volunteers will be in the hospital areas to encourage registration. Watch for media coverage of Project MEDVOTE but, most importantly, register to vote if you have not done so. The stakes are extremely high in Missouri as well as on the national level this year.

The age of political involvement is here. Not one physician can afford to be uninformed or disinterested in the political process. Our only shield against control may be in our careful scrutiny and support of candidates we know to be fair and open to understanding our profession.

If you are *not* registered, you *cannot* vote. If you *cannot* vote, you *cannot* be heard. If you *cannot* be heard, you *can* be controlled.

Register! Vote! Missouri Medicine and your profession depend on it.

Mrs. John Mitchell
MSMAA Legislative Chairman

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Mrs. William R. McPhee Elected President-Elect of AMA Auxiliary

Mrs. McPhee

Mrs. William R. McPhee, Kansas City, a Past-President of the Missouri State Medical Association Auxiliary, was elected President-Elect of the American Medical Association Auxiliary at its annual convention in Chicago on June 17-20, 1984.

Mrs. McPhee is the third Missourian to achieve this honor. As President-Elect, she also is a member of the AMA Auxiliary Executive Committee.

Mrs. McPhee's contributions of effort and dedication to auxiliary activities are well known both in Missouri and nationally.

In the AMA Auxiliary, she has served two terms as North Central Regional AMA-ERF Chairman, Director and member of the Bylaws Committee, Chairman of the Reference Committee on Amendments to the Bylaws (1980) and North Central Regional Vice-President (1981-1982 and 1982-1983). She was Secretary of the AMAA Executive Committee in 1983-1984.

In the MSMA Auxiliary, Mrs. McPhee has served as Corresponding Secretary, First Vice-President, President-Elect and President (1975-1976). She served as Parliamentarian for several years and assumed the chairmanships for six programs for the state auxiliary group.

A member and a past-president of Clay-Platte County Medical Society Auxiliary, Mrs. McPhee also has served as Corresponding Secretary and in seven committee chairmanships. She also is a corresponding member of Jackson County Medical Society Auxiliary and has participated in their meetings and served on several committees.

Mrs. McPhee is now Chairman of the Bylaws Committee for the Southern Medical Association Auxiliary and has been chairman of seven additional committees since 1978. In 1978-1979, she was co-chairman for the annual convention in Las Vegas, Nev.

She was a founding member and charter officer who assisted in drafting the bylaws for the Missouri Association of Hospital Auxiliaries and a founding member and charter President of the North Kansas City Memorial Hospital.

Her services to the state of Missouri include being a member of the Governor's Committee for Children and Youth, which included membership of the Advisory Committee for the 1980 White House Conference of Families, and the State Mental Health Task Force for the 1981 Missouri White House Conference on Children and Youth from Missouri plus other assignments. She also has served as Kansas City Chairman and on the State Board of Directors for the Missouri Association for Social Welfare, a statewide citizens organization founded in 1901.

Mrs. McPhee's participation in Kansas City and multi-county organizations are unusually extensive and varied. Her awards include being named as a Matrix Table Honoree in 1980, which is a Women In Communication's Award for outstanding civic service. She also received a citation for outstanding civic contribution in 1981 from Volunteers Against Hunger (Kansas City Inner-City Group).

In 1983, she was named one of 60 Women of Achievement by the Mid-Continent Council of Girl Scouts of America. She also holds two professional memberships, one in Pi Lambda Theta and one in Phi Alpha Theta.

A graduate of the University of Kansas School of Education with a major in English and minors in history and psychology, Mrs. McPhee was a third-grade teacher at Parker School, Kansas City, Kan. for three years.

Dr. McPhee, a pathologist, retired in 1983. Dr. and Mrs. McPhee are the parents of two children: Mark Steven is an internist specializing in gastroenterology and an Associate Professor at the University of Kansas School of Medicine; Mrs. Martha Ann Taft McPhee is an attorney and associate in the law firm of Dorsey-Windhorst in Minneapolis, Minn.

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J. DOUGLAS IRMEN, J.D., *Kansas City*

Preferred Provider Organizations

Part I – An Overview

THE HEALTH CARE DELIVERY system in the United States is undergoing fundamental change. The combined effect of the growing surplus of physicians and hospital facilities, recession, inflation, and heightened governmental, employer and consumer sensitivity to health care costs have forced the medical and other health care professions to confront the same competitive pressures that business and other professions have been coping with for years.

This article presents a discussion of one of the responses to the new competitive environment, Preferred Provider Organizations (PPOs). Although only a relatively small number of PPOs have become operational nationwide thus far, the PPO movement is burgeoning and already has begun spreading to Missouri. Missouri physicians, hospital administrators and other health professionals will need to familiarize themselves with the various types of PPOs that are being organized at the present time, as well as with the myriad laws and regulations that will affect this rapidly developing field both now and in the future.

DESCRIPTION OF PPOs

The name Preferred Provider Organization is somewhat of a misnomer. Although a PPO *may* be a specific organization, that is not always the case. A PPO is primarily a set of contractual arrangements by which health care providers agree to provide their services, usually at a discount, to the users of those services (patients) and to the payors of those services (insurance companies, self-insured employers, union trust funds). The providers also commit themselves to a strict utilization review system by which the number and type of procedures, as well as the length of hospital stays, will be closely scrutinized in order to reduce total health care costs to the payor. In exchange for the provider discounts and utilization review system, the payors agree to designate the providers as "preferred providers." The payors then arrange their policies and benefit programs in a way that is designed to increase the provider's volume of patients and, thereby, enable the provider to retain a patient base that might otherwise be eroded through the competitive pressures of the marketplace.

This article is the first of a two-part series in which the author presents an overview of Preferred Provider Organizations (PPOs).

The numerous legal issues presented by PPOs will be analyzed by the author in Part II of this article, which is scheduled to be published in the October issue of MISSOURI MEDICINE.

Mr. Irmen is an attorney associated with the Shughart, Thomson & Kilroy law firm in Kansas City.

This is accomplished by giving patient subscribers of the participating payors the economic incentive to use the preferred providers through the waiver or significant reduction of deductibles or co-payments for subscribers using a preferred provider. Subscribers are free to utilize the services of a non-preferred provider but must pay any difference between what the preferred provider program would have paid and the actual charges incurred.

The PPO experience is so new that, even in states(such as California and Colorado) that already have PPOs in operation, there is scant hard data to enable PPO proponents to measure the success of their movement. Furthermore, the types of PPOs that have been established have varied greatly. Nonetheless, PPOs do share certain general characteristics:

(1) The establishment of a preferred panel of providers including physicians, hospitals, or both.

(2) A program whereby the services of the panel are marketed or made available to payors.

(3) Fee schedules that are discounted or negotiated among the providers, the payors, and/or a third party.
(4) An attempt by payors to provide increased patient volume to the preferred providers.
(5) The establishment of economic incentives for subscribers to use the preferred providers.
(6) The retention of subscriber freedom to choose physicians outside the panel, subject to the economic disincentives of so doing.
(7) The absence of any insurance-type risk by the preferred providers.
(8) Utilization controls that may be exercised on a pre-admission, concurrent or retrospective basis designed to minimize the nature and extent of tests, surgery, hospital stays, and other procedures that have historically been utilized without serious cost scrutiny.
(9) Quick turnaround time for the payment of claims filed by the preferred providers for their services. This system holds out the promise of reducing accounts receivable and improving provider cash flow.
(10) Providers need not be limited to membership in one PPO and may maintain their traditional practices for non-PPO patients.

Although PPOs may be structured in numerous ways, including the sharing of certain aspects of other health care delivery systems, PPOs ultimately distinguish themselves from other health care delivery systems by virtue of two characteristics: (1) selective contracting with particular providers of health care services and (2) subscriber incentives to utilize the services of those selected providers. Thus, PPOs should not be confused with HMOs (Health Maintenance Organizations).

Although HMOs have arisen in response to the same competitive pressures that have forced providers and payors to consider PPOs, HMO programs require that their patients receive services only from HMO providers. Benefits are paid only when provided by or authorized by the HMO. The physicians practicing in the HMO bear the risk of providing necessary medical services in exchange for a fixed premium or payment from the subscriber or payor that may or may not prove to be sufficient to cover actual costs.

A type of hybrid between an HMO and a PPO is referred to as an IPA or Independent Practice Association. IPA physicians form a panel of providers but, nonetheless, practice out of their own offices and charge on a fee for service basis. Like HMOs, however, there is a limit to the amount of funds available and the providers are at risk to the extent that premiums collected fail to cover the cost of services rendered. Still another type of structure is the EPO, or Exclusive Provider Organization. In an EPO, the fee for service concept is retained but there is no financial risk to the providers. Subscribers are limited in benefit payments to services received only from the panel members. Services received from providers outside the panel are not reimbursed to the subscriber at all.

Although PPOs may be structured in a variety of ways, there are three basic types of PPO organizations. Each is distinguishable by the type of person or entity responsible for initiating the PPO:

Provider Based PPOs. These are PPOs originated and organized by physicians and hospitals or both. Interested physicians and/or hospitals agree to market and render their professional services to third party payors and to establish whatever contractual relationships and organizations are necessary to achieve those goals. Hospitals and physicians may also establish some form of joint venture relationship by which they cooperate in marketing, patient referrals and utilization review. Such ventures may be further expanded to include networks of various hospital and physician PPOs to cover an entire city or region and, thereby, enhance the PPO's marketing appeal.

Third party payors may be more responsive to these latter types of PPO networks because they offer hospitals and physicians who are scattered throughout the same city or geographic area in which their employees and insureds are also scattered. Statewide networks and franchises are a possible extension of this concept in marketing the PPO to payors having subscribers across an entire state.

Payor Based PPOs. PPOs can also be initiated by third party payors (insurance companies, self-insured employers, unions). These entities have a strong interest in obtaining the cost reduction benefits that PPOs can provide and, therefore, may act either alone or in conjunction with others as the initiators of the contractual relationships required in order to establish a PPO. The "Preferred Care" PPO recently announced by Blue Cross/Blue Shield of Kansas City is an example of a payor-based PPO.

Entrepreneurial Based PPOs. Entrepreneurial PPOs, or broker PPOs, are distinguished from other PPOs by a lack of direct or indirect control of, or financial interest in, the PPO by either providers or payors. Third party administrators, individuals, or business entities are the driving force behind entrepreneurial PPOs and are compensated in some manner for their organization and operation of the PPO by those who benefit from their services, namely, the payors and providers who would have otherwise incurred the costs of initiating the PPO.

Our Readers Write . . .

Mr. Royal O. Cooper
Executive Secretary
Missouri State Medical Association

Dear Mr. Cooper:

How very kind of the Missouri State Medical Association to send a 50-year pin that marks my 50th year as possessor of a M.D. degree.

I very much appreciate this recognition that attests to one's durability at least, and I shall display it as a sign of good fortune and the thoughtfulness of the Medical Association.

The Missouri State Medical Association is a forward-looking organization that has a large part to play in recognizing and resolving today's problems in providing health care of high quality to the citizens of Missouri.

My thanks to you for this thoughtful gesture.

Sincerely Yours,
Leon J. Galinsky, M.D.
Tucson, Ariz.

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BARBARA HOSKINS, *Jefferson City*

Hospital Satellite Clinics

Part IV — An Excerpt From a Study of Missouri Health Maintenance Organizations, Preferred Provider Organizations, Hospital Satellite Clinics and Freestanding Emergency Care Centers

AT LEAST 17 Missouri hospitals are providing primary care at satellite clinics. We have been able to identify some 28 practice settings that have the following characteristics:

- is not located on the hospital campus;
- provides primary care;
- is hospital-sponsored (completely governed, managed and financed by the hospital) or is hospital-associated (governed and managed by the hospital, financed through a contractual arrangement of shared expenses and revenues with physicians) but *not* hospital as landlord.

This represents a substantial increase over the 16 clinics operated by 11 different hospitals identified in 1982. (The St. Anthony's "satellite" in Arnold that was listed has no plans to provide ongoing care, so has been included only in the freestanding emergency care centers section. Another "satellite," the Richard Cabot Clinic, has only a contractual arrangement for certain management services with St. Mary's, and, thus, does not meet the definition.)

Information about 15 clinics (affiliated with 11 hospitals) was obtained in late 1983 by means of a survey. Eight of the clinics were identified after the survey had been completed. It is believed, however, that the responses of the 15 are representative.

REASONS FOR ESTABLISHMENT

All of the clinics reported that one major reason for establishing the clinic was to "serve an underserved area." The next most common reason indicated, as reported by 12 of the 15 responding, was to "insure a patient-physician referral base." Meeting competition, generating additional hospital income, providing a learning environment (for interns and residents) and extending ER service were also mentioned.

INTRODUCTION

"*Resolved*, that the Missouri State Medical Association, through its Commission on Medical Economics, Third Party Medicine and Governmental Relations, monitor Health Maintenance Organizations, Individual Practice Associations, Preferred Provider Organizations and hospital satellite clinic practices in this State for the next five years, reporting annually to the Council on the extent of this type of activity and assess, as far as possible, the overall impact that it has on the medical profession in the State of Missouri."*

The above Resolution #2 was adopted at the 1982 Annual Convention of the Missouri State Medical Association. The first part of the five-part series was presented to the MSMA Council in January, 1983. It set forth definitions to be used throughout the series and a directory of all known entities.

Part Two was completed in March, 1984 and provides the results of an indepth survey conducted during the summer and fall of 1983. The survey was made of these entities to learn how they are structured, their length of operation, the benefits and services offered, and their financial operations.

While the full report is available to MSMA members, a summary of this report has been presented in MISSOURI MEDICINE. In this issue, the fourth part of the four-part series examines hospital satellite clinics.

Mrs. Hoskins is Director, Bureau of Health Resources Statistics, Missouri Center for Health Statistics, Missouri Division of Health.

HOURS OF OPERATION

The hours of operation varied. Three clinics also function as FECs and are open extended hours, including Saturdays and Sundays. The others resemble any other physician's practice; some are open Monday through Friday only;

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* In 1982, the Commission on Medical Economics broadened the scope of the entities to be studied to include freestanding emergency centers.

some offer Saturday morning services; some offer evening hours one or more days a week.

Staffing

Whereas freestanding emergency care centers are typically staffed by emergency medicine physicians, the satellite clinics are typically staffed by family practitioners (ten), internists (six), OB/Gyn (one) and pediatricians (two). Two do employ emergency medicine physicians in addition to those in the primary care specialties. One major difference between these satellite clinics and other (private) medical practices is that many of these clinics are staffed by a pool of physicians. The majority reported full-time equivalents, representing the time of several part-time physicians on staff.

Other staff on site include RNs (reported by eight clinics) and/or medical assistants (reported by ten clinics). Four reported laboratory personnel.

Hospital-Clinic Relationships

For the majority of the satellite clinics (13 of 15 responding), the sponsoring hospital assumes total fiscal and legal accountability for the ambulatory care program. The physicians in 12 of these clinics are salaried; in one, the physicians bill separately for their professional fees. In two clinics, fiscal responsibility is shared with the hospital.

Billing and collection activities are generally performed by the clinic (13). Only two clinics reported other arrangements.

Staff selection is usually performed by the hospital or managing corporation (ten clinics) or jointly (four clinics). Only one indicated that staff selection is a clinic responsibility.

All of the clinics reported that the clinic building, as well as most of the equipment, was owned (or leased) by the hospital.

Emergency Coverage

After hours/emergency coverage in these satellite clinics is typically provided by physicians on call (nine facilities) and/or by the hospital (seven facilities). Only one clinic indicated that no after-hours service is available.

Reimbursement

All of the clinics receive reimbursement from Blue Shield, commercial insurors, and Medicare — Part B. Ten report Medicaid reimbursement (ranging from 4% to 30%), while three report no Medicaid reimbursement.

Expansion

Establishment of additional primary care satellite clinics appears likely as does expansion of hospitals into other outpatient areas, such as occupational medicine and health promotion.

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MSMA Members Receive Physician's Recognition Award

Sixty-seven MSMA members qualified for the MSMA-AMA Physician's Recognition Award in May, 1984.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

Chester I. Bare, Raytown
Thomas C. Black, Kansas City
George K. Boyd, Kansas City
Hugh S. Brady, Concordia
Jordan M. Burkey, Springfield
William R. Bynum, Columbia
Kim A. Carmichael, St. Louis
Richard B. Chusak, St. Louis
Frank I. Clark, Joplin
Thomas A. Coppinger, Kansas City
James E. Crockett, Kansas City
Terrence Curran, Kansas City
Mark M. Devine, North Kansas City
Roy F. Drake, Kansas City
Robert E. Funsch, St. Louis
Braham J. Geha, Kansas City
John C. Hall, Kansas City
Lanny W. Harris, Kansas City
Salvador R. Hernandez, St. Louis
Blain Z. Hibbard, Kansas City
Thomas M. Holder, Kansas City
Thomas J. Hopkins, Sedalia
Robert G. Hughes, St. Louis
Henry B. Ivy, Springfield
Jeffrey R. Johnson, Springfield
Marvin Kahn, Kansas City
Timothy D. Kennedy, Kansas City
Abdul G. Khan, Arnold
John T. Kirchmer, Kansas City
Henry C. Krahn, Springfield
King Y. Lee, Kansas City
Harold C. Lentz, Neosho
Rizalina Llanes-Rodas, Kansas City
James K. Loutzenhiser, Kansas City
Virgil L. Malmberg, St. Louis
Newton C. McCluggage, N. Kansas City
Donald E. McIntosh, Springfield
Joe K. McKinney, St. Louis
Roger L. Mell, Chesterfield
Carl N. Mentgen, Springfield
Norman E. Morrow, Springfield
Faquir Muhammud, St. Louis
Henry G. Ollinger, St. Louis
Gary L. Pack, Kansas City
Richard T. Padula, Kansas City
Stanley Penner, Kansas City
Steven B. Perlmutter, St. Louis
Robert L. Pierron, St. Louis
Erich A. Quer, Kansas City
Mary K. Rauth-Farley, St. Joseph
Hubert A. Ritter, St. Louis
Douglas M. Rope, Kansas City
Walter R. Ross, Liberty
James L. Russell, Kansas City
George E. Siemers, St. Louis
Gerald E. Staab, Kansas City
David L. Straub, Joplin
Bennie J. Throne, Kansas City
Mark D. Vogt, Kansas City
Harold W. Voth, Kansas City
Gary M. Wasserman, Chesterfield
Herbert A. Wenner, Kansas City
Michael N. Whisenant, Kansas City
James A. Wolf, St. Louis
John A. Woltjen, Kansas City
Earl J. Wright, Kansas City
Ronald A. Youmans, Kansas City

American Medical Association
Continuing Medical Education AWARD

MSMA Members Receive Physician's Recognition Award

Seventy-nine MSMA members qualified for the MSMA-AMA Physician's Recognition Award in June, 1984.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

Louis A. Allen, North Kansas City
George D. Amromin, Columbia
Lysle M. Bach, Hannibal
Matthias H. Backer, St. Louis
Charles W. Barbee, Columbia
Edward F. Bare, Tarkio
McPherson S. Beall, Kansas City
Gary D. Beauchamp, Kansas City
John W. Beeks, Kansas City
Hubert H. Bell, Kansas City
James G. Blythe, Creve Coeur
David C. Bodensteiner, Kansas City
Barbara N. Buchanan, Kansas City
Bruce R. Buie, Kansas City
Daniel C. Campbell, Mount Vernon
James S. Carter, Columbia
David J. Clark, Cape Girardeau
Robert D. Conn, Kansas City
John A. Crouch, Columbia
John W. Cullen, Kansas City
Calvin J. Curts, Kansas City
Donald R. Davis, Kansas City
Russell B. Dieterich, St. Charles
George D. Dixon, Kansas City
Bernard L. Draper, Rolla
Richard L. Dreher, Kansas City
Gerald J. Duling, St. Charles
Jon W. Durr, St. Charles
Samuel E. F. Ericsson, Kansas City
James E. Everett, Kansas City
James W. Fowler, Kansas City
Clarence B. Francisco, Kansas City
Larry F. Glaser, Kansas City
William H. Goodson, Kansas City
Robert L. Goolsbee, Kansas City
Rengasamy Gowdamarajan, Kansas City
Martin T. Greenberg, Kansas City
Darrell L. Griffin, Farmington
Mario J. Guastello, Kansas City
Robert E. Gunnoe, Kansas City
Melvin R. Hayden, Camdenton
Michael F. Hughes, Kansas City
Robert S. Hunt, Cape Girardeau
Gareth R. P. Johnson, Kansas City
Harry S. Jonas, Kansas City
T. Reid Jones, Kansas City
Melvin C. Kasten, Cape Girardeau
Theodore C. Kiekhaefer, St. Joseph
William E. Larsen, Kansas City
Kun T. Liao, St. Louis
Gary F. Lockwood, Kansas City
George E. Magaletta, Cape Girardeau
Ben D. McCallister, Kansas City
Andrew McCanse, Kansas City
Bruce L. McClennan, St. Louis
Wallace P. McKee, Kansas City
Andrew D. Mitchell, Kansas City
Norman Mutchnick, Kansas City
Bentley A. Nelson, Kansas City
Robert H. Owens, Kansas City
Edward G. Pepper, St. Louis
Jay T. Peterson, Kansas City
John H. Rippey, Kansas City
Henry Rodeffer, St. Louis
John L. Rollo, St. Louis
J. Edward Slankard, Kansas City
William A. Staggs, Kansas City
Harry Statland, Kansas City
Morris Statland, Kansas City
Robert E. Stephenson, Kansas City
Arnulfo P. Sulit, Kansas City
James R. Thomas, St. Louis
Frank W. Titterington, Kansas City
Landy S. Weis, St. Louis
Roland D. Williams, Kansas City
Herbert J. Winer, Kansas City
Samuel D. Woods, Kansas City
Shuh-Min Wu, Kansas City
W. Joel Wurster, Kansas City
Darrel W. Yates, St. Louis
George H. Zografakis, St. Louis

NEWS From the Medical Schools

ST. LOUIS UNIVERSITY

Simon Horenstein, M.D., chairman of the Department of Neurology, was a recent guest lecturer at the Department of Neurology, Hokkaido University of Medicine in Sapporo, Japan. He was invited to lecture in Japan by the Japan Neurological Society.

The American Heart Association, Missouri Affiliate Research Committee has awarded research grants of a total of $63,000 to three researchers at the School of Medicine.

Barry M. Chapnick, Ph.D., associate professor of pharmacology, received $24,000 to study newly discovered compounds known as leukotriens or fatty acids. *Vernon W. Fischer*, Ph.D., professor of anatomy, was the recipient of $15,000 to seek to reduce the toxicity of an anti-cancer drug, Daunorubicin. *W. Michael Panneton*, Ph.D., assistant professor of anatomy, was awarded $24,000 to study the brain's neural system that may be involved in the adjustment of heart and respiratory rates after stimulus to the face.

Rev. Paul C. Reinert, S.J., chancellor of St. Louis University, received the Robert H. Felix Distinguished Service Award from the Department of Community Medicine. The award is given yearly and is the highest recognition bestowed by the department for outstanding leadership in community health and medicine. The award is named for *Robert H. Felix*, M.D., M.P.H. on his retirement ten years ago as dean of the School of Medicine and professor of psychiatry and community medicine.

Fr. Reinert served as president of the University for 25 years and became chancellor in 1974 to devote more time to strengthening the many forms of support for the University and to enhance the University's Midtown environment.

In addition to honoring Fr. Reinert, the Department of Community Medicine recognized 11 home health care agencies and more than 200 physicians in St. Louis whose efforts have educated medical students and other health care personnel about the issues affecting the health and welfare of the community.

Max Pepper, M.D., M.P.H., is chairman of the Department of Community Medicine.

Morton Weber, Sc.D., chairman of microbiology, recently presented seminars on research titled "A Study of Bioenergetics Leading to an Understanding of the Mode of Action of Isoniazid" at schools of medicine at New York University, University of Massachusetts and Tufts University.

Raymond Slavin, M.D., professor of internal medicine and microbiology, appeared on a four-hour "Informathon" program on asthma and allergies on May 7 on Cable Health Network, a national cable television station. Dr. Slavin is also director of the Division of Allergy and Immunology at the School of Medicine. He is a former president of the Asthma and Allergy Foundation of America.

Medical students at the School of Medicine and dental students at Washington University School of Dentistry shared their skills with children at an annual health screening at the John Cochran Veterans Administration Medical Center.

Sponsored by Phi Delta Epsilon, the medical fraternity at St. Louis University and Delta Sigma Delta at Washington University, as well as Morro House and Full Achievement, the screening involved about 50 area children.

Screening included a physical examination, vision tests, routine urine and blood tests and a dental examination. The medical students were under the supervision of *Raymond Slavin*, M.D., director of the Division of Allergy and Immunology at St. Louis University School of Medicine.

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Willis K. Paull, Jr., professor and interim chairman of the Department of Anatomy at the School of Medicine, has received a three-year grant of $184,183 from the National Institutes of Health for a study of "Corticotropin Releasing Factor Neuroendocrine Systems."

Dr. Joyce Mitchell, assistant professor of child health, is the principal investigator of a National Institutes of Health contract to build a state registry of cytogenetic disorders and phenylketonuria. *Dr. Judith Miles*, assistant professor, and *Dr. Calvin Woodruff*, professor, both in the Department of Child Health, are co-investigators.

Dr. Mitchell will coordinate data received from

Washington University School of Medicine, St. Louis University School of Medicine, St. Mary's Health Center in St. Louis and the University of Missouri-Kansas City School of Medicine. That data will be stored in a microcomputer and periodically transmitted to the University of Texas Health Sciences Center in Dallas, the national coordinating center.

Dr. Georgia Nolph, professor of family and community medicine, has been named Missouri state director of the American Medical Women's Association for the next two years. Dr. Nolph also has been asked to serve on the parent education subcommittee of the mayor's task force on drug and alcohol abuse in Columbia.

Dr. Harold E. Carlson, associate professor of endocrinology and metabolism in the Department of Medicine, has been elected to the Central Society for Clinical Research.

Dr. E. Dale Everett, director of infectious diseases in the Department of Medicine, presented a paper on AIDS to the 5,503 Hospital Reserve Unit Medical Symposium in St. Louis. He also presented a paper on "Pseudomonas Infections" to the Audrain Medical Society in Mexico (Mo.). He gave a presentation on the "Infectious Complications of CAPD" at the Fourth National CAPD Conference in Kansas City.

Dr. James E. Brick, a postdoctoral fellow in immunology and rheumatology in the Department of Medicine, received the fellow's award for the abstract he presented at the Central Rheumatism Association meeting in Chicago.

At the same meeting, *Dr. Brick; Dr. Deborah Wilson*, assistant professor, and *Dr. Sara Walker*, associate professor, presented a paper on "Responses to Thymic Dependent and Thymic Independent Antigens in Autoimmune B/W Mice."

Dr. John W. Yarbro, professor of hematology and medical oncology in the Department of Medicine, was elected president of the Association of Community Cancer Centers at a recent national meeting of the organization in Washington. He is the first professor from any university to become president of the association.

Dr. Ramareddy Guntaka, associate professor of microbiology, has received $117,727 from the American Cancer Society for a study of the "Effect of Methylation of Provirus Gene Expression."

Dr. Michael Misfeldt, assistant professor of microbiology, has received a one-year grant of $27,671 from Vitek Systems Inc. for a "Study of Techniques for the Rapid Identification of Microorganisms."

Dr. Jaye M. Shyken, chief resident in the Department of Obstetrics and Gynecology, became an assistant professor in the department in July.

Dr. John W. Hesser has joined the Department of Obstetrics and Gynecology as an assistant professor. He completed a fellowship in maternal-fetal medicine at the University of California-Irvine Medical Center and the Women's Hospital at Long Beach Memorial Medical Center in California.

Dr. Robert P. Burns, the Roy E. Mason distinguished professor and chairman of the Department of Ophthalmology, spoke on "Hematoporphyrin Derivative and Photoradiation Therapy in Malignant Melanoma" at the golden anniversary of the Edward S. Harkness Eye Institute in New York. Dr. Burns also was a visiting professor during ophthalmology alumni days at Tulane University.

Dr. Joseph Giagiacomo, associate professor of ophthalmology, was co-chairman of the pediatric ophthalmology and strabismus section of the American Academy of Ophthalmology's north central regional update course in St. Louis.

The spinal cord injury and chronic pain management programs in the Department of Physical Medicine and Rehabilitation were reviewed and approved recently by the Commission on Accreditation of Rehabilitation Facilities.

Students *Brian Conley* and *Daniel Sohn* received second- and third-place prizes, respectively, in the Barnard M. Baruch Essay Contest sponsored by the American Congress of Rehabilitation Medicine.

Dr. Boyd E. Terry, professor of general surgery, presented a paper on "Surgical Treatment of Morbid Obesity — How Effective Is It?" at the Interdisciplinary Nutrition Committee Research Symposium.

Dr. Donald Silver, professor and chairman of the Department of Surgery, served as program chairman for the Central Surgical Association meeting in Pittsburgh.

Several members of the UMC Department of Psychiatry participated in the annual meeting of the American Psychiatric Association in Los Angeles.

Dr. David Davis, professor and acting chairman, completed seven years of service as chairman of the North American Society of the Royal College of Psychiatrists when he presided at a meeting of the Society during the APA meeting. He also participated in a meeting of the American Association of Chairmen of Departments of Psychiatry.

Dr. Syed Arshad Husain, professor of child psychiatry, was chairman of a component presentation by the APA Committee on Foreign Medical Graduates on "FMGs: Past Achievements and Present Challenges." He also presented a paper on "Growing Up in the U.S.A.: An Asian-American Perspective" and was appointed to a task force to facilitate communication between the APA and the American Board of Psychiatry and Neurology. Dr. Husain is senior author of a book, *Suicide in Children and Adolescents* (with Patricia Vandiver), which was among new books displayed at the APA meeting.

Dr. Gabrielle A. Carlson, associate professor of child psychiatry, taught a course on "Affective Disorders in Children and Adolescents." *Dr. Javad H. Kashani,* associate professor of child psychiatry, presented a paper, coauthored by Dr. Carlson and *Dr. Joel S. Ray,* clinical assistant professor of medical psychology, on "Depression in Preschool Age Children." The paper has been accepted for publication in the *American Journal of Psychiatry*.

WASHINGTON UNIVERSITY

Virginia V. Weldon, M.D., deputy vice-chancellor for medical affairs at the School of Medicine, has been elected a fellow of the American Association for the Advancement of Science (AAAS).

Dr. Weldon is one of 269 members of the association named 1984 fellows. The AAAS, formed in 1848, is the nation's leading general scientific organization with some 136,000 individual members and 285 affiliated scientific societies and academies of science.

In electing fellows, the AAAS honors members who have made scientifically or socially distinguished efforts to advance science or its applications. Dr. Weldon was cited for her contributions to pediatric endocrinology, for medical school administration and for developing and articulating public policy on biomedical research.

Dr. Weldon is vice-president of the Washington University Medical Center, professor of pediatrics at the School of Medicine, and on staff at Barnes and Children's hospitals, sponsoring institutions of the Washington University Medical Center. A specialist in pediatric endocrinology, she has studied mechanisms of abnormal growth in childhood.

Larry Eugene Fields, M.D., cardiology fellow in the Department of Medicine, has been selected as one of the first fellows in the Robert Wood Johnson Foundation's Minority Medical Faculty Development Program.

The program provides grants to qualified minority physicians who choose to pursue full-time academic careers in medical science. Under the program, eight minority physicians from throughout the nation were selected to receive up to four years of funding to conduct biomedical research under the supervision of senior faculty members at academic medical centers.

Dr. Fields is interested in characterizing myocardial metabolism and performance in patients with diabetes mellitus who are at high risk for cardiovascular disease. He uses conventional biochemical and cardiac function methodology, as well as noninvasive techniques that use positron-emitting tracers.

He is serving his cardiology and Robert Wood Johnson Foundation fellowships under the direction of *Burton Sobel*, M.D., director of the Cardiovascular Division in the Department of Medicine, and *Steven R. Bergmann*, Ph.D., assistant professor in the Department of Medicine. Dr. Sobel is also on staff at Barnes Hospital, a sponsoring institution of the Washington University Medical Center.

Two students at the School of Medicine have been named co-recipients of the Seventh Annual James L. O'Leary Prize for Research in Neuroscience.

Pamela Manning, Ph.D., of the Department of Pharmacology, and *Jeffrey J. Neil*, M.D., Ph.D., of the Department of Anatomy and Neurobiology, received the prize at the medical school's annual neuroscience symposium. The O'Leary Prize recognizes the most original and important accomplishments in neuroscience research by a pre- or postdoctoral student at Washington University.

Dr. Manning, a Missouri Heart Fellow, treated rats with high doses of the hypertension drug guanethidine. Her work showed that the drug caused the rats' immune systems to attack their sympathetic nervous systems, destroying neurons that control heart rate and blood pressure. Dr. Manning's work with drug-induced autoimmune diseases also provides a model for studying other autoimmune diseases, such as multiple sclerosis.

Introducing Our New MSMA Members

Murray Boles, M.D., 500 Keene St., Columbia 65201, has become a member of Boone County Medical Society. Dr. Bowles is a native of Windsor, Canada, received his preliminary education at the University of Western Ontario and his M.D. degree at the University of Western Ontario in 1953. He specializes in radiology.

John J. Brems, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Brems is a native of Cedar Rapids, Iowa, received his preliminary education at Rockhurst College and his M.D. degree at St. Louis University in 1981. He specializes in general surgery.

Jonell Byers, M.D., 13013 Fuller, Suite E, Grandview 64030, has become a member of Jackson County Medical Society. Dr. Byers is a native of Ulysses, Kan., received her preliminary education at the University of Kansas and her M.D. degree at the University of Kansas in 1978. She specializes in dermatology.

William L. Cowden, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Cowden is a native of Pecos, Tex., received his preliminary education at Texas Tech University and his M.D. degree at the University of Texas in 1978. He specializes in internal medicine, critical care and cardiology.

Robert L. Druet, M.D., 1235 E. Cherokee, Pathology Department, Springfield 65804, has become a member of Greene County Medical Society. Dr. Druet is a native of Salina, Kan., received his preliminary education at Washington University and his M.D. degree at the University of Kansas in 1962. He specializes in anatomic and clinical pathology.

Joseph W. Forney, M.D., 314 E. Promenade, Mexico 65265, has become a member of Audrain County Medical Society. Dr. Forney is a native of Hannibal, received his preliminary education at St. Louis University and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in cardiology and internal medicine.

John P. Hall, D.O., 3 Doctor's Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Hall is a native of Cape Girardeau, received his preliminary education at the University of Missouri-Columbia and his D.O. degree at Kansas City College of Osteopathy in 1979. He specializes in urology.

William V. Hamilton, D.O., 2601 Kendallwood Parkway, Suite 102, Gladstone 64119, has become a member of Clay-Platte County Medical Society. Dr. Hamilton is a native of Dallas, Tex., received his preliminary education at Texas A & M University and his D.O. degree at Kansas City College of Osteopathic Medicine in 1973. He specializes in obstetrics and gynecology.

Judith E. Harvey, M.D., 403 Medical Tower, Springfield 65802, has become a member of Greene County Medical Society. Dr. Harvey is a native of Pasadena, Calif. She received her baccalaureate and M.D. degrees from the University of Missouri-Kansas City in 1979. She specializes in ophthalmology.

Jon A. Horine, M.D., 8300 Troost Ave., Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Horine is a native of Parsons, Kan., received his preliminary education at Pittsburg State University and his M.D. degree at the University of Kansas in 1977. He specializes in internal medicine and gastroenterology.

Marius M. Hubbell, Jr., M.D., Children's Mercy Hospital, 24th at Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Hubbell is a native of Galveston, Tex., received his preliminary education at the University of Houston and his M.D. degree at the University of Texas in 1970. He specializes in pediatric cardiology.

Randy G. Johnson, M.D., 725 Swarthmore, St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Johnson is a native of Chicago, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1978. He specializes in internal medicine, cardiology and critical care.

Louis Kouo, M.D., 60 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Kouo is a native of Chungking, China, received his preliminary education at the University of Louvain and his M.D. degree at the University of Louvain in 1973. He specializes in internal medicine and gastroenterology.

Festus J. Krebs, III, M.D., 1325 S. Grand Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Krebs is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1980. He specializes in otolaryngology and head and neck surgery.

Katherine L. Kreusser, M.D., 8025 Dale Ave., St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Kreusser is a native of Indianapolis, Ind., received her preliminary education at the University of Pennsylvania and her M.D. degree at Indiana University in 1978. She specializes in pediatrics and child neurology.

Leander K. Lee, M.D., Barnes Hospital, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Lee is a native of Swatow, China, received his preliminary education at Tarkio College and his M.D. degree at the University of Nebraska in 1980. He specializes in anesthesiology.

Gary Leifer, M.D., 6700 Troost, Suite 436, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Leifer is a native of Kansas City, received his preliminary education at Johns Hopkins University and his M.D. degree at Johns Hopkins University in 1979. He specializes in urology.

Alan J. McLeod, M.D., St. Luke's Hospital, Dept. of Radiology, Wornall at 44th, Kansas City 64111, has become a member of Jackson County Medical Society. Dr. McLeod is a native of Kansas City, received his preliminary education at Wichita State University and his M.D. degree at the University of Kansas in 1978. He specializes in diagnostic radiology.

Roy A. Michael, D.O., 1111 Madison, Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Michael is a native of Jefferson City, received his preliminary education at the University of Missouri-Columbia and his D.O. degree at Kansas City College of Osteopathic Medicine in 1980. He specializes in anesthesiology.

Douglas S. Miller, M.D., University of Missouri-Columbia Hospital, Room M-173, One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Miller is a native of Dallas, Tex., received his preliminary education at Rice University and his M.D. degree at the University of Texas in 1981. He specializes in dermatology.

Dean A. Nierling, M.D., Emergency Center, University of Missouri-Columbia Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Nierling is a native of Iowa City, Iowa, received his preliminary education at the State University of Iowa and his M.D. degree at the State University of Iowa in 1960. He specializes in emergency medicine and family practice.

David P. Roeltgen, M.D., Dept. of Neurology, University of Missouri-Columbia Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Roeltgen is a native of Hackensack, N. J., received his preliminary education at the University of Pennsylvania and his M.D. degree at Tufts University in 1976. He specializes in neurology.

Lynn R. Shaffer, M.D., SR 2, Box 458, Branson 65616, has become a member of Tri-Lakes Medical Society. Dr. Shaffer is a native of Springfield, received his preliminary education at Drury College and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in family practice.

Michael E. Shinn, M.D., 4030 N. Oak Traffic Way, Kansas City 64116, has become a member of Clay-Platte County Medical Society. Dr. Shinn is a native of Rochester, Minn., received his preliminary education at Hamline University and his M.D. degree at the University of Minnesota in 1980. He specializes in family practice.

Ravindra V. Shitut, M.D., 12615 Old Tesson Rd., St. Louis 63128, has become a member of St. Louis Metropolitan Medical Society. Dr. Shitut is a native of Bombay, India, received his preliminary education at the University of Bombay and his M.D. degree at the University of Bombay in 1976. He specializes in orthopaedic surgery.

Donald A. Skor, M.D., Suite 17312, Barnes Hospital Plaza, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Skor is a native of Chicago, Ill., received his preliminary education at Washington University and his M.D. degree at Rush Medical College in 1978. He specializes in internal medicine and endocrinology.

Andrea L. Struss, M.D., 3509 Monterey, Columbia 65201, has become a member of Boone County Medical Society. Dr. Struss is a native of Philadelphia, Pa., received her preliminary education at Iowa State University and her M.D. degree at the University of Iowa in 1973. She specializes in psychiatry.

Thomas R. Turnbaugh, M.D., 1513 Union Ave., Moberly 65270, has become a member of Chariton-Macon-Monroe-Randolph County Medical Society. Dr. Turnbaugh is a native of St. Louis, received his preliminary education at the University of Missouri and his M.D. degree at Washington University in 1976. He specializes in orthopaedic surgery.

Gerald T. Wedemeyer, M.D., 2712 Braemore Rd., Columbia 65203, has become a member of Boone County Medical Society. Dr. Wedemeyer is a native of Adair, Iowa, received his preliminary education at Iowa State University and his M.D. degree at the University of Iowa in 1980. He specializes in pathology.

Gerald M. Woods, M.D., Children's Mercy Hospital, 24th at Gillham Rd., Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Woods is a native of Chicago, Ill., received his preliminary education at Princeton University and his M.D. degree at Duke University in 1976. He specializes in pediatrics.

Rodney L. Worthen, II, M.D., Department of Urology, University of Missouri-Columbia Health Sciences Center, One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Worthen is a native of Lawton, Okla., received his preliminary education at Cameron University and his M.D. degree at the University of Oklahoma in 1980. He specializes in urology.

Michael A. Young, D.O., 420 E. High, Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Young is a native of Kansas City, received his preliminary education at Central Missouri State University and his D.O. degree at Kansas City College of Osteopathic Medicine in 1978. He specializes in nephrology and internal medicine.

New Student Members

St. Louis University

Renee Cotter-Ngo
James William Martin

University of Missouri-Columbia

Kimberly Ann Alumbaugh
Jessee Lynn Crane
Nancy S. Rader

University of Missouri-Kansas City

Richard J. Brooks
Susan Lynette Storm

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NEWS About CME Events

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society

Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

Sept. 21-22	The Long Weekend (Alameda Plaza Hotel)
Nov. 8-10	Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 6-8	The Heart 1984 (Alameda Plaza Hotel)

Washington University

Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Oct. 15-17	Advances in Scar Revision and Camouflage
Nov. 9-11	11th Annual Symposium: Anesthesia and the Geriatric Patient (Marriott Pavilion Hotel)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine

510 S. Kingshighway, St. Louis 63110
(314) 362-7100
***Contact:* Ronald G. Evens, M.D., Director**

Oct. 8	City-Wide Radiology Conference on "Breast Cancer Detection"
Nov. 12	City-Wide Radiology Conference on "Recent Advances of MRI in Neuroradiology"
(1985)	
Jan. 14	City-Wide Radiology Conference (St. Louis University)
Feb. 11	City-Wide Radiology Conference on "Digital Radiography"
Mar. 11	City-Wide Radiology Conference on "Interventional Radiology"

University of Missouri-Columbia School of Medicine Office of Continuing Education

M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

Oct. 4-6	Advances in Rheumatology
Oct. 19-21	Modern Management of Diabetes Mellitus (Osage Beach)
Oct. 22-23	Annual Meeting Missouri Perinatal Association (Jefferson City)
Oct. 26-27	27th Annual Physician's Weekend
Nov. 3-4	Swallowing Disorders (St. Louis)
Nov. 3-4	Preventive Cardiology in Primary Care (Osage Beach)
Nov. 12-16	Review for Certification Examination in Infection Control
Nov. 16-18	Missouri Ear, Nose and Throat Society Meeting
(1985)	
Feb. 6-8	Fifth National Conference on CAPD (Kansas City)
Mar. 1	Preceptor's Day
Mar. 2-3	Eighth Annual Family Practice Update Session

University of Kansas

Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

Sept. 18	Leukemia Society Annual Symposium (Alameda Plaza Hotel, Kansas City)
Sept. 27-28	Rehabilitation and Continuing Care in Cancer (Doubletree Hotel, Overland Park, Kan.)
Oct. 5	Research Day
Oct. 18-19	Advanced Trauma Life Support
Oct. 18-19	39th Annual Internal Medicine Symposium
Oct. 23-24	Medicine and Religion: The Family
Nov. 2	Annual Diabetes Symposium
Nov. 2	Leukemia Society Annual Symposium (Alameda Plaza Hotel, Kansas City)
Nov. 29-30	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Dec. 13-14	Advanced Trauma Life Support
(1985)	
Jan. 20-26	Contemporary Issues in Obsterics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Feb. 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
Contact: Anita Herbst, Continuing Medical Education

Sept. 25-28	Alumni Postgraduate Seminar on Geriatric Medicine (London, England)
Oct. 6	Treatment of Headaches and Neck Pain
Oct. 6	Pediatric Orthopedics for the Non-Orthopedist
Oct. 12-13	Treatment of Headaches and Neck Pain (West Port Plaza, St. Louis)
Oct. 17-19	Fifth Annual Ultrasound Symposium: Special Imaging (Park Terrace Airport Hilton, St. Louis)

Deaconess Hospital
Sleep Disorder Center
6150 Oakland Ave., St. Louis 63139
(314) 645-8510
Contact: James K. Walsh, Ph.D., Director

Sept. 12	Sleep Disorders Update (Breckenridge Frontenac, St. Louis)

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52nd ANNUAL POSTGRADUATE ASSEMBLY

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Paul A. Dewald, M.D.
ST. LOUIS PSYCHOANALYTIC INSTITUTE
Psychoanalytic Psychotherapy

Donald W. Goodwin, M.D.
UNIVERSITY OF KANSAS MEDICAL CENTER
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George E. Murphy, M.D.
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In Memoriam

George L. Johnson, M.D., 2855 S. Barnes, Springfield 65806; graduate of Temple University, 1953; member of Greene County Medical Society; aged 58; died April 18, 1984.

Richard Graham Fish, M.D., 4370 Forest DeVille Dr., St. Louis 63129; graduate of St. Louis College of Physicians and Surgeons, 1919; member of St. Louis Metropolitan Medical Society; aged 87; died May 23, 1984.

Philip Gibbs Kaul, M.D., 4320 Wornall Rd., Kansas City 64111; graduate of University of Kansas, 1945; member of Jackson County Medical Society; aged 63; died May 29, 1984.

Elmer E. Sexton, M.D., 2537 Town & Country La., St. Louis 63131; graduate of St. Louis University, 1920; member of St. Louis Metropolitan Medical Society; aged 87; died June 6, 1984.

William M. Korth, M.D., 5880 44th Ave., North, St. Petersburg, Fla. 33709; graduate of Creighton University, 1927; member of Jackson County Medical Society; aged 83; died June 8, 1984.

James A. Reid, M.D., 6 Bedwell La., Bella Vista, Ark. 72712; graduate of University of Kansas, 1939; member of Saline County Medical Society; aged 69; died June 10, 1984.

Robert O. Luehrs, M.D., 800 South Hanley Rd., Apt 1B, St. Louis 63105; graduate of the University of Oregon, 1938; member of St. Louis Metropolitan Medical Society; aged 83; died June 24, 1984.

Richard M. Margolis, M.D., 50 Ladue Estates Dr., St. Louis 63141; graduate of Case Western Reserve University, 1951; member of St. Louis Metropolitan Medical Society; aged 57; died June 25, 1984.

James A. O'Dowd, M.D., 9405 Mackenzie Rd., St. Louis 63123; graduate of St. Louis University, 1927; member of St. Louis Metropolitan Medical Society; aged 83; died July 3, 1984.

A. J. Cone, M.D., 2323 Manor Grove Dr., Chesterfield 63017; graduate of the University of Iowa, 1923; member of St. Louis Metropolitan Medical Society; aged 85; died July 5, 1984.

Robert S. Nye, M.D., 4852 S. Broadway, St. Louis 63111; graduate of St. Louis University, 1935; member of St. Louis Metropolitan Medical Society; aged 73; died July 5, 1984.

Sheldon E. Berenson, M.D., 832 West 63rd, Kansas City 64113; graduate of the University of Minnesota, 1947; member of Jackson County Medical Society; aged 60; died July 13, 1984.

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FAMILY PHYSICIAN — Full-time opening in St. Louis County for Board Certified physician interested in family practice and occupational/industrial medicine. An interesting, challenging practice with sufficient time for family and education. Excellent salary first year and then partnership. Send resume to CA-File 474, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

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ST. LOUIS — Emergency department physicians sought for two St. Louis area full service community hospitals (500 and 300 beds respectively). Opportunities are available for full-time medical directors and full-time and part-time staff. Benefits include competitive income, flexible scheduling, paid professional liability insurance, CME, ACLS, ATLS and ACEP membership dues reimbursement. American-trained physicians preferred. For details contact Mike Dixon, Spectrum Emergency Care, Inc., 999 Executive Parkway, St. Louis, MO 63141 (314) 878-2280 (collect).

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GENERAL SURGEON NEEDED — Internal medicine, small town, northwest part of state. Solo. Guarantee. Free rent. Contact Mike Jenkins, RH Medical Group, 12651 Briar Forest #180, Houston, TX 77077. (713) 496-7777.

FAMILY PHYSICIAN-GREATER KANSAS CITY AREA — Board certified FP needed now for group practice, 15 minutes from downtown Kansas City. Practice affiliated with medical school and teaching opportunities available. Obstetrics optional. Benefits excellent, Salary negotiable. Please respond with CV to Edwin L. Clounts, M.D., Parkville Medical Group, 8600 N.W. 64th, Parkville, MO 64152. (816) 587-0440.

STAFF PSYCHIATRISTS — Needed for inpatient units in rural community within one hour drive of St. Louis. Excellent school system and community in which to raise children. Qualifications: Board certified or eligible; current Missouri license or eligibility to obtain MO license. Currently have 350-bed hospital, with approved funding for new 170-bed inpatient hospital, 90-bed forensic facility, and 200-bed mental health program in corrections. Salary: $59,410, plus $8-10,000/year for on-call (3-4 days/month); board certification differential; malpractice, health insurance; tax deferred comp.; retirement benefits; life insurance; 3 weeks vacation; 3 weeks sick leave; 10 days CME. Reimbursement for interview/moving expenses upon employment. Call or write Gary L. Bassett, M.D., Chief of Medical Staff, Farmington State Hospital, Farmington, MO 63640. (314) 756-6792 ext. 347.

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in Brief

A summary of AMA, medical & health news

American Medical Association / 535 North Dearborn Street / Chicago, Illinois 60610 / Phone (312) 527-1500 / TWX 910-221-0300

AN AMA HISTORY, *The AMA and U. S. Health Policy Since 1940*, will be available in book stores early in October. The 550-page book details the AMA's role in the changes in health care and the shifts in U. S. economic policy that have occurred roughly since World War II. The author is Frank D. Campion, a former *Life* magazine writer who joined the AMA staff in 1970. The book was approved for publication by the AMA Board of Trustees. Campion said he was allowed wide latitude to write a fair-minded account of events. Book store price will be $25. A prepublication discount offer is being advertised in AMA publications. The publisher is Chicago Review Press.

THE TELEVISION PREMIER of Med-Video Clinic, a series of one-hour cable TV programs produced by the AMA, resulted in a deluge of more than 17,000 calls requesting continuing medical education study guides. The series premiered on May 12 and May 20, respectively, on the Lifetime and USA cable networks.

THE VOLUNTARY FEE FREEZE is supported by 73% of physicians, according to a survey commissioned by the AMA. Based on 775 telephone interviews with a random sample of physicians, the AMA estimated that the one-year halt to fee increases would save the American people approximately $1.41 billion.

MEDICAL LICENSURE boards will be notified by the AMA when a physician loses his license for incompetence, the Association told the Senate's Special Committee on Aging. Trustee John J. Ring, M.D., said the AMA is concerned that health care practitioners who have been found unfit to practice in one jurisdiction are able to relocate and practice in another jurisdiction where they hold a license. Using the AMA Physician Masterfile, the Association will send information on a disciplinary action in one state to all other states where the physician has held a license.

A SPECIAL TASK FORCE on professional liability has been created by the AMA Board of Trustees. In a report to the 1984 Annual Meeting of the House of Delegates, the Board said, "The medical profession today needs immediate action on this subject." The task force will be chaired by Executive Vice-President James H. Sammons, M.D. In testimony before Congress, the AMA said the average incidence of claims has risen from 3.3 per 100 physicians before 1978 to 8.0 per 100 physicians in the period from 1978-1983. Trustee James S. Todd, M.D., said the AMA's Committee on Professional Liability reports that "no segment of litigation has had a more rapid growth during the past 15 years than claims emanating from health care."

THE PHYSICIAN POPULATION of the United States as of December, 1982 was 501,958, according to the latest figures from the AMA Physician Masterfile. Of these, 408,663 (81.5%) were engaged in direct patient care activities. Women and foreign medical graduates made up 12.8% and 21.4% of the physician population, respectively. FMGs increased 87.5% from 57,217 in 1970 to 107,284 in 1982. Between 1970 and 1982, the number of FMGs in U.S. graduate medical training programs declined 22.6%.

THE DUNLOP GROUP has released a 12-page booklet describing community approaches to provide health care services for the unemployed and their families. Topics include the health-related effects of unemployment, services donated by physicians and others, and establishment of a referral center to coordinate activities. The Dunlop Group is composed of six national organizations, including the AMA, that are interested in promoting health care coalitions. For more information, contact the AMA Department of Health Care Coalitions, 312-645-4715. Currently, 164 medical societies are participating in health care coalitions, according to an AMA survey. The finding represents an increase of 45% over 1983.

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References: 1. Kales J *et al*: *Clin Pharmacol Ther* *12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther* 32:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* *27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol* 3:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res* *13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol* 3:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

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Missouri Medicine

Vol. 81, No. 10 (ISSN 0026-6620) October, 1984

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M. D. S.

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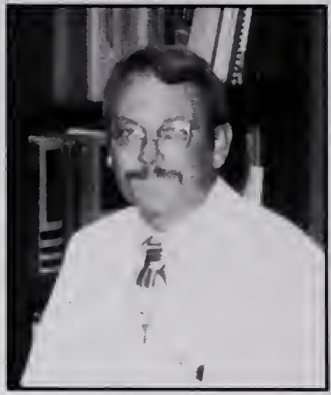

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Kansas City, Mo 64110, 816-363-6161

Founded by the Missouri State Medical Association

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PROGRESS NOTES

missouri state medical association

OCTOBER 1984

AMA publishes new set of PMIs

The AMA has published 21 new Patient Medication Instruction sheets (PMIs), bringing to 81 the total number of PMIs available.

Drugs and drug classes covered by the new PMIs include:

- Glaucoma Eye Medicine - Miotic
- Glaucoma Eye Medicine - Long Acting
- Glaucoma Eye Medicine - Epinephrine-type
- Timolol - Ophthalmic
- Carbamazepine
- Rauwolfia Alkaloids
- Trimethoprim
- Sulfamethoxazole and Trimethoprim
- Nitrofurantoin
- Isoniazid, Ethambutol and Rifampin
- Colchicine
- Probenecid and Sulfinpyrazone
- MAO Inhibitor Antidepressants
- Bromocriptine
- Clomiphene
- Estrogens - Oral
- Sucralfate
- Sulfasalazine

The PMI series is designed to supplement, not replace, face-to-face counseling about drug prescriptions. Each sheet is carefully worded to provide information to the patient, without alarming him about the medication's possible side effects.

The PMIs are supplied in pads of 50 sheets, with a minimum order of five pads (in any combination) required. Cost is $1 per pad.

To order from this new list of PMIs, enclose your order with payment and mail to:

PMI Order Department
American Medical Association
P.O. Box 8052
Rolling Meadows, IL 60008

August meeting

Council considers Medicare agreements

Medicare regulations governing "participating" and "non-participating" physicians were among the topics discussed at the August 25 meeting of the MSMA Council at the Lake of the Ozarks Holiday Inn.

Physicians were advised to read carefully the "participating physician" agreements, which must be signed by September 30, 1984. Physicians who do not return the signed agreement will be designated "non-participating."

Details on the incentives for "participating" physicians were covered in the Medical Economics and Third Party Medicine Commission report before the Council. Dr. Nicholas Colosi chairs the commission.

The Council established April 3-6 as the dates for the 1986 Convention at the Marriott Pavilion in St. Louis. The dates of April 1-5 were also approved for the 1987 Convention at Tan-Tar-A, Lake of the Ozarks.

Practice management workshop dates also received the Council's approval. In Springfield, the workshop will be May 14-15, 1985, and in St. Louis, May 16-17. The workshops will be conducted by Conomikes.

Dr. Richard Bradley gave a report from MOMEDICO. He said the company moved in early August to new offices in St. Louis, and a new WATS line has been established for clients of the firm. A field service operation was also started, providing personal calls to physicians when necessary for claims, claims renewal, policy renewal, and the like.

A new field service office was opened recently at MSMA headquarters in Jefferson City, he said. Dr. Bradley also reported that MOMEDICO has defended 23 cases since its inception in 1978, with 17 successful results.

(Continued on page 2)

AMA files lawsuit

Medicare rule constitutionality challenged

The AMA Board of Trustees filed a lawsuit Spt. 21 challenging the constitutionality of new Medicare amendments.

John J. Coury, M.D., said in a statement following the Board action that the amendments to the Deficit Reduction Act of 1984 will deny Medicare beneficiaries the ability to choose a physician. The act creates two new categories for physicians --"participating" and "non-participating." A "participating" physician agrees to accept assignment in 100% of Medicare patients.

The provisions of the act authorize penalties against non-participating physicians who raise their charges, and freeze their fees until October 1, 1985.

"This singles out non-participating physicians, alone among all segments of society, to price controls," Dr. Coury said.

In addition, restrictive fee schedules set for clinical laboratories will "deprive Medicare beneficiaries and others of complete medical services." The reduction of service, said Dr. Coury, will be particularly noticeable in small and rural communities.

Dr. Coury's statement concluded, "The AMA is concerned that this legislation will seriously jeopardize the availability, access and complete delivery of medical services to the American people."

MSMA nominees win appointments

Dr. Hubert Ritter, AMA Trustee, returned from the recent meeting of the Board of Trustees with good news.

Dr. Barbara Buchanan, Speaker, was appointed to the AMA Council on Long Range Planning and Development. Dr. J. Regan Thomas was appointed to the Ad Hoc Committee on Young Physicians.

Signature requirement off Medicaid claims

The Missouri Medicaid Program has announced that a signature is no longer required on Medicaid claim forms or Turn-Around Claims (TACs).

In addition, the announcement said, legible photocopies will now be accepted for resubmission of claims. Physicians and their staffs are advised, however, to take care in copying so no necessary information is "cut off" on the photocopy. Illegible copies will be returned to the provider.

Tip of the Month

Calls for the doctor don't come only into the office. Some are taken by your answering service, and others may come through a hospital emergency room.

Whatever the routing, it doesn't help to have a patient waiting (and probably hurting) while the call-taker searches for the right doctor and phone number.

A group practice can alleviate this problem by giving the ER and answering service a monthly listing showing the name and number of the doctor On Call for every day and night of the month. A solo practitioner can give call-takers a similar schedule, showing which days and nights a covering physician (or physicians) will be on call and what phone number to call.

The written monthly schedule gives you one more chance to be sure your calls will be routed properly, at any hour of the day or night.

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Scam of the Month

'Grandpa' scheme nets painkillers for Missouri street drug traffickers

The Education Committee of the Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs has published a series of "Scams of the Month," designed to make Missouri's health professionals aware of the techniques used by con artists and drug dealers to obtain prescription drugs.

This is the second in the series: "The Grandpa Scam."

MSMA members are invited to share their experiences in dealing with these "professional patients." Send your stories to the MSMA Communications Department, P.O. Box 1028, Jefferson City, MO 65102.

The so-called "Grandpa Scam" involves a couple who appear to be an innocent young girl and her supposedly terminally ill grandfather. "Grandpa" has stomach cancer, they say, and they are on their way from Alabama to Oregon so he can be with his kinfolk when he passes on. (The states to which they're traveling, of course, will vary.)

The old man willingly shows his scarred abdomen to the physician and explains that he has had surgery at a V.A., or other public hospital. He says he is in excruciating pain, for which he needs medication, but that he is allergic to certain pain remedies. The professional patient is able to steer the conversation around to a discussion of Dilaudid or Demerol, both of which "Grandpa" says have been used before with good results.

After they obtain the prescription for the desired drug or drugs, the couple sells the drugs to local street dealers, usually for $15 to $20 per unit dose. The prescription is often for an inordinately large amount of drugs, since the grandfather needs enough to "last the trip to Oregon." The couple, who normally remain in a community for about two weeks, will often net as much as $5,000 a week from this scam.

Frequently, the physician ends up seeing the young "granddaughter" once again. She appears in the doctor's office in an emotional and apologetic state, reporting that "Grandpa" has lost his prescription and is in need of a replacement. She is, of course, most appreciative when the physician provides the second prescription.

REMEMBER: Be alert to patients who are unknown to you, who demonstrate behavior associated with drug abuse, who have insufficient identification, or who otherwise behave suspiciously. Your request for positive identification, or a simple telephone call or two can often be an effective deterrent to these con artists.

Pharmacists should check all Dilaudid prescriptions with the physicians involved. The identity of the person presenting the prescription should be verified by recording license numbers, Social Security numbers and the like on the prescription itself.

★ Council

(Continued from page 1)

Dr. David Wilkinson gave the report from the Commission on Medical-Legal Affairs. Members of the Commission met recently with invited representatives from business, insurance, industry and professional groups to discuss the possibility of forming a coalition to seek reform of tort statutes relating to professional and product liability. Committees were appointed to establish goals and guidelines for the proposed coalition. The group plans to meet again in October.

In other action, the Council approved the production of patient brochures on DRGs and HMOs, both of which received recommendations from the Commission on Public Affairs. A sample of each new brochure will be sent to each MSMA member, with the opportunity to order additional copies. A brochure on alternative treatments for breast cancer was also given the go-ahead. Five of these brochures will be sent to each member after publication.

Dr. Dorothy Reister, reporting from the Public Affairs commission, noted that the Missourinet's proposed "Talkshow" radio interview program had been cancelled by the network. The MSMA had been invited to buy into the program.

The Council gave its approval to a seminar designed to train physicians in handling the media. This seminar will be conducted by Mort Enright.

The next meeting of the MSMA Council is December 14-15, 1984, at the Jefferson City Ramada Inn.

Supreme Court rules

No privilege on peer review records

The Missouri Supreme Court decided recently that under Missouri law, no privilege exists regarding documents generated by peer review proceedings if they are relevant to a pending lawsuit, such as a malpractice suit.

The main case in the decision was *State ex rel Ingrid Chandra v. Sprinkle*. The defendant doctors in the cases in question had argued that peer review records should be granted privilege, which has been recognized in other jurisdictions.

In his dissenting opinion, Judge Warren D. Welliver noted that a majority of other states recognize such a privilege. He said that a malpractice victim suffers "only minimally" from nondisclosure of peer review records, whereas the medical profession may suffer greatly from disclosure. Welliver said it was ironic "that the legal profession has been quick to accord its peer review proceedings with a cloak of confidentiality."

The ruling has created concern that the prior candor of peer review committee members will be inhibited. As a result of the ruling, findings, documents and recorded statements that come out of peer review meetings may now be used as support for some future plaintiff's malpractice suit.

The high court noted in its opinion that although no peer review privilege exists in Missouri, a hospital might still be able to seek a "protective order" from a court to prevent disclosure of peer review proceedings.

Follow '3-C" Rule

Your vote makes difference at polls

How you will be able to practice medicine in the future is determined to a great degree by the people elected to serve in Missouri's Legislature. Only by becoming involved in the law-making process can physicians be sure that quality health care will continue to be available to Missourians.

Statistics show that what happens to a bill in the Legislature is directly related to the amount of interest and effort placed on the issue by influential groups.

In this election year, physicians are reminded that their votes do make a difference. And, involvement with individual legislators can also have a real effect on whether proposals before the lawmakers become law or not.

The "3-C" Rule is a simple and effective way individual physicians can make their voices heard in Missouri's Legislature.

CAMPAIGNS: Politicians are vitally interested in being elected or re-elected, and nothing is more appreciated than volunteer workers to assist in the campaign. Discuss the issues with the candidates, select your favorite, and then get actively involved. (Your family, too.)

CONTRIBUTIONS: Running an an effective campaign in today's "media world" requires money -- and that means your personal contributions are very important. Realize this fact of life, write a check to your candidate, and reap a tax write-off. (And a friend for life.)

CONTACT: Once you have established a relationship with your elected officials, stay in contact with them on medical issues. Legislators run the gamut from farmers to housewives, salesmen to lawyers. They want and need physicians' opinions on medical issues. (And remember, regardless of your legislators' occupation, they vote on laws that govern your profession!)

MSMA members have the additional opportunity to become "Key Contacts," physicians who are willing to contact their legislators on important medical issues. These physicians are furnished weekly reports to keep them abreast of all the current medical issues facing the Legislature, and the action that needs to be taken.

Members may also support the MMPAC and AMPAC, the political action organizations representing medicine.

For information about becoming more involved in medical issues in the legislative process, write:

MSMA Legislative Affairs
P.O. Box 1028
Jefferson City, MO 65102

AMA lawsuit

Boyle explains Medicare challenge

AMA President Joseph F. Boyle, M.D., has prepared an open letter to members of the AMA, in an effort to explain why the association is challenging the constitutionality of the new Medicare amendments to the Deficit Reduction Act. The text of his letter follows.

To: AMA Members
Re: Recent amendments to the Medicare program

September 6, 1984, the Board of Trustees voted to file a lawsuit challenging the constitutionality of several recently enacted amendments to the Medicare law. Specifically, we will challenge the 15-month mandatory freeze on all physician charges to Medicare beneficiaries with criminal penalties for non-compliance; the arbitrary penalties imposed upon Medicare patients and their physicians who do not agree on assignment for reimbursement; and all mandatory fee schedules for independent diagnostic laboratories.

We share the outrage many of you have expressed over this ill-conceived, oppressive and discriminatory Congressional action which was adopted despite the voluntary fee freeze for all patients requested by AMA and accepted by nearly 80% of AMA members.

The amendments were drafted in extreme haste behind closed doors and adopted with no opportunity for AMA or anyone else to comment upon them. We believe that these amendments are unconstitutional; that they exceed Congress' power; that they violate the rights of Medicare beneficiaries and their patients to equal protection of the law and impair the fundamental right to contract freely for medical care.

We intend to press this legal challence vigorously and will continue to make the Congress aware of the counter-productive and potentially divisive nature of this very bad legislation which conceivably could drive all medical care costs higher.

In the meantime, pending the outcome of our legal challenge, you will need to respond to the provisions of this new law. As you contemplate the decisions you must now make, we have several recommendations for you.

(Continued on page 4)

★ Boyle

(Continued from page 3)

First, our patients have very intense concerns about their ability to pay for medical care. Therefore, we again urge that to the extent possible you do continue to freeze your charges for all patients. Let us not allow the Congress' lack of sensitivity cause us to lose ours. Second, we hope that you will continue to accept or not accept assignments on the same basis as you have in the past according to the dictates of your own conscience and on the basis of individual patient needs. And that you will resist the notion that the federal government should make that determination for you or for your patients. The "incentive" to sign "participating" agreements may prove illusionary at best, given the history of Medicare to date.

Finally, one last plea. Let us remember that our mission, our calling, the reason for our professional existence is caring for people. Our patients share our frustrations over the pace of society and the intrusion of outsiders into their personal lives. Let us make certain that they know of our concern for their well being above any other consideration and our determination that they shall have the best that we can provide for them no matter what the pressure, no matter what the threat to our own immediate gain. The public's confidence in our commitment to the primacy of our patients' interests is our professional future.

Thank you for all your letters on this issue. We will continue to keep you informed of important developments on this matter.

Joseph F. Boyle, M.D.

Attention:
Society secretaries

Secretaries of component medical societies are reminded to send in the names of their society officers, as well as the amounts of their society dues for 1985.

Details of the MSMA dues-collecting arrangement were outlined in a recent mailing to society secretaries. Contact MSMA Headquarters if you have any questions.

Seminars to teach new Medicare codes

A series of seminars is planned to help physicians in coverting to a new Medicare encoding system, which will be instituted November 26, 1984.

Missouri's Medicare fiscal agent, General American Life, will be using the Health Care Financing Administration (HCFA) Common Procedure Coding System (HCPCS), replacing the California Relative Value Study system now used. The codes, developed by HCFA in conjunction with the AMA, will become the single system for nationwide use.

So individual physicians' offices will be using the correct codes, General American has advised all physicians to obtain the *new* CPT 1984. The book may be ordered directly from the AMA by writing

Order Department OP-341
American Medical Association
P.O. Box 10946
Chicago, IL 60610

The dates of the HCPCS seminars are listed below. The seminars will include instruction in the new codes, as well as discussion of all the new Medicare regulations recently instituted. The physician section of the seminars is from 9-11 a.m. each date. A second section for non-physician specialties runs from 1-3 p.m. on each date.

October 2, 1984
Cox Medical Center
Fountain Plaza Room
1423 North Jefferson
Springfield, MO

October 3, 1984
Joplin Municipal Building
Council Chambers
303 E. Third
Joplin, MO

October 9, 1984
KCOM Campus
Gutensohn Clinic
(Primary Care clinic)
800 W. Jefferson
Kirksville, MO

October 10, 1984
Hearnes Building
Room 309
600 Stadium Blvd.
Columbia, MO

October 16, 1984
First Christian Church
Fellowship Hall
1601 N. Main
Poplar Bluff, MO

October 17, 1984
Southeast Missouri State University
SEMO-University Center
900 Normal
Cape Girardeau, MO

October 19, 1984
General American Life
National Service Center
13045 Tesson Ferry Rd.
St. Louis, MO

To make reservations for these seminars, contact General American Life, Professional Relations, at (314) 525-5509, or 525-5523.

St. Louis Society rededicates building

The headquarters building of the St. Louis Metropolitan Medical Society, located at 3839 Lindell Blvd., was rededicated in a ceremony September 7.

An open house, tours of the building, and an evening ceremony culminated more than a year's work renovating the 1927 neoclassical building.

The $1.5 million project included an overhaul of the building's electrical, plumbing and heating systems, restoration and expansion of library facilities, building of a new rare-book room, construction of an automobile entry canopy and connecting foyer on the western building facade, and conversion of the old auditorium into a 418-seat facility better suited to the society's needs.

Members of the renovation committee were J. Otto Lottes, M.D., chairman; T.J. Cooper, M.D.; Linda A. Fisher, M.D.; J. Richard Furrer; Kenneth R. Smith Jr., M.D., and Marjorie Smith.

Newly restored facade of the St. Louis Metropolitan Medical Society headquarters building.

BALANCED CALCIUM CHANNEL BLOCKADE!

CARDIZEM®
(diltiazem HCl)
balances potent coronary vasodilation with a low incidence of side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

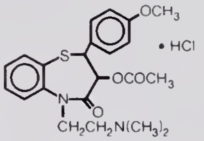
Please see full prescribing information on following page. 2/84

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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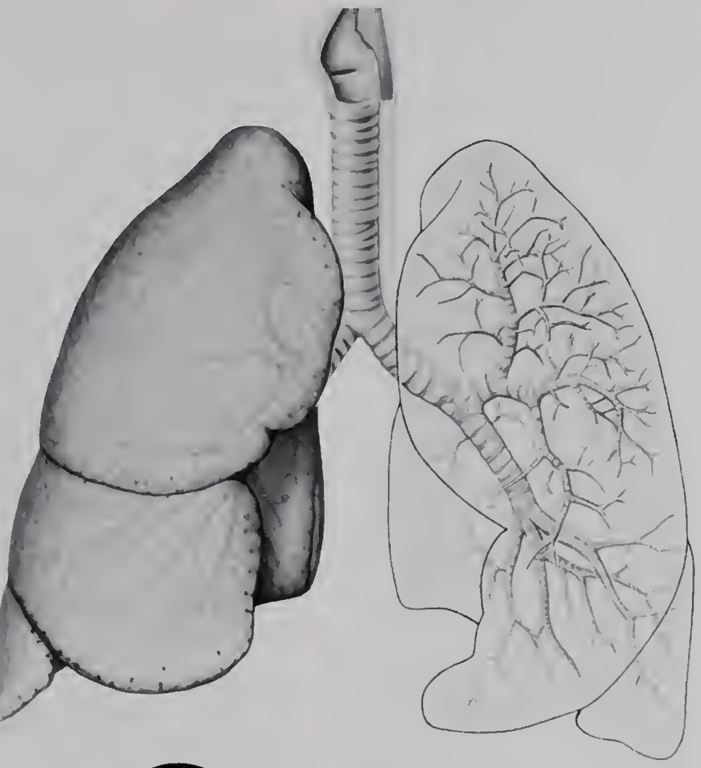

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Brief Summary. Consult the package literature for prescribing information

Indications and Usage: Ceclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae* and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by C *difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions* — If an allergic reaction to Ceclor* (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary the patient should be treated with appropriate agents, e g pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest* tablets but not with Tes-Tape* (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy — Pregnancy Category B — Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor* (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed

Nursing Mothers — Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0 18, 0 20, 0 21, and 0 16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children — Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2 5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1 5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and frequently fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain — Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic — Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40)

Hematopoietic — Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal — Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200)

[061782R]

Note Ceclor* (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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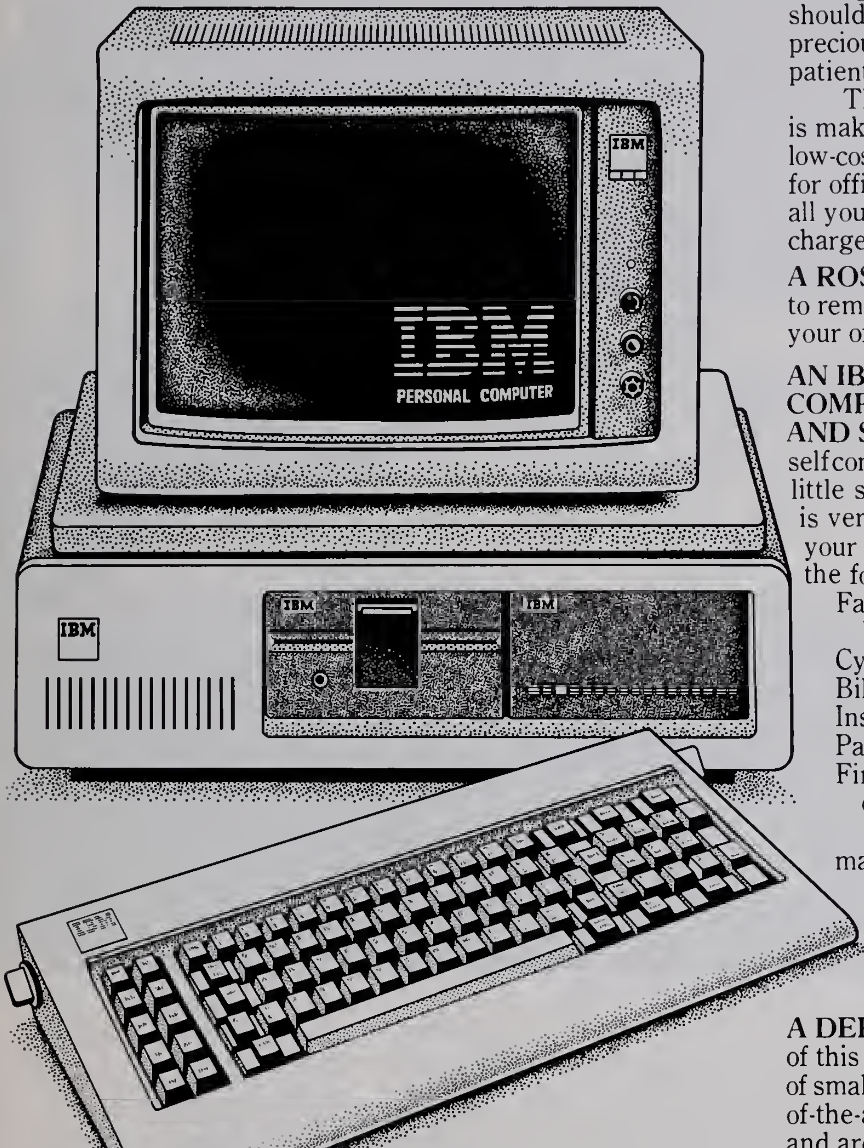

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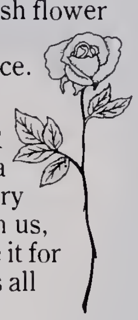

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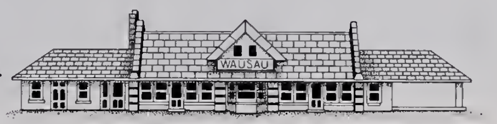

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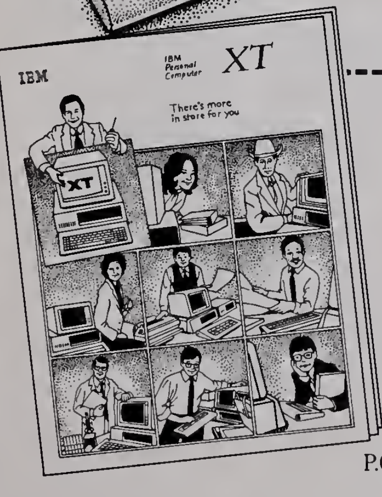

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Editor's Corner

EDITORIAL

Halloween gives us all a chance to give vent to whatever repressed feelings we might have about goblins, ghosts and other unnatural concepts. Murky graveyard scenes creep into our thoughts. The basis for most of these mental ramblings goes back to antiquity and the fears and superstitions of long ago. Of more recent vintage, however, is an ogre that has been formulated in the human mind, aided by the media, to the point of near hysteria at times. This spectre is the prospect of having one's eventual demise due to the consequence of a malignancy rather than some other cause.

Dying of cancer has become a fate far worse than any other means of leaving this world. One "lives with" heart disease or diabetes; he "suffers" with cancer. He "adjusts" to life after a stroke; he deals with the "ravages" of cancer. Motor vehicle deaths make casual party talk; malignancies are discussed in whispers. As heaven is presently construed, there surely must be a second rate, dimly lit lower level set aside for those unfortunate enough to arrive there via the cancer route. All this fear and concern has resulted in much research in this field of medicine and, hopefully, many long-awaited answers are in the offing. Some of this piecemeal investigation, however, has led to scare headlines which are putting the public into an increasing quandary as to how to live natural lives without touching, eating or inhaling something to place them into the cancer category in no time flat. Reported medical research results, more often than not, present only one facet of a complex problem. The statistical importance of many "cancer causing" ingredients in our lives, if carefully studied, would probably relegate many of the newspaper stories dealing with the latest ways we are heading toward neoplastic ruin to small print items somewhere in back of the want ads.

One recent suggestion, this from the American Cancer Society, is that we eat more cabbage, brussel sprouts, cauliflower and the like to keep down intestinal malignancy. This comes as a low blow to the editor, whose opinion of the entire mustard family as foodstuffs has not improved much since childhood. Along with this we must of course restrict fats, which carry flavor; eat bran, which has all the appeal of sawdust, and nervously think to check our daily intake to be sure we haven't committed the unpardonable sin of not getting our daily quotient of vitamins A and C to hold down abnormal mitoses. Salt-cured foods are forbidden; red meat needs to be restricted. Sunshine is bad for us; so also is too much moonshine for that matter.

One has to try to develop some common sense about the entire subject. The lay news media isn't of much help; its interest in the subject is limited to obtaining stories, and the effect on the public is a problem beyond consideration. There seems to have been little help from organized medicine in trying to put a proper perspective on the subject of cancer on behalf of the public, so that intelligent choices in lifestyle might be better made. As it is now, the people are understandably confused as to what they should do and not do to stay healthy. The overwhelming quantity of advice on preventing cancer may, even worse, upset some persons to the point of not making any use of it at all.

A bit of philosophy has to enter into these considerations; are we supposed to live forever? Is death from a malignancy at age 78 much worse than dying from a neurological disease at 79? It all makes one want to spend an entire day off doing nothing other than sitting out breathing polluted air in the cancer-causing sunshine, eating a greasy hamburger on a bun made from prepared flour, drinking a soft drink laced with artificial sweeteners, and tossing any offered cabbage to the birds. They deserve it.

JORDAN W. BURKEY, M.D.
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WILLIAM T. SIRRIDGE, M.D., MILTON B. GRIN,
and J. CHRIS JOHNSON, *Kansas City*

Polyarteritis Nodosa

Case Report and Review

THE CASE REPORT in this article emphasizes the diverse clinical presentation of polyarteritis nodosa (PAN). Characteristically, the signs and symptoms of this disease are attributed to other causes or organ pathology and present a diagnostic dilemma. The patient in this report demonstrated the classic multiple organ system involvement of PAN. The patient's signs, symptoms and laboratory findings included testicular and abdominal pain, polyneuropathy, proteinuria, hypertension, lymphadenopathy, associated Heptatitis B surface antigen, and constitutional symptoms of weight loss, anorexia and fever. The presence of multiple symptoms involving more than one organ led to confirmation of this diagnosis by biopsy and abdominal arteriography.

CASE REPORT

A 25-year-old-white man was admitted to the hospital with a one-week history of severe testicular pain accompanied by nausea and vomiting. The patient also complained of distal upper and lower extremity weakness of such severity that he was unable to ambulate. Other symptoms at admission were indeterminate abdominal pain, severe back pain, and constitutional symptoms that included a 30 lb. weight loss, anorexia and low grade fever. His past medical history signified intravenous (IV) drug abuse.

A physical examination revealed a cachectic, white man with generalized lymphadenopathy. Vital signs were as follows: temperature, 99.5; blood pressure 154/100; pulse rate, 88; respirations, 18. Other positive findings were a diffusely tender abdomen; markedly tender epididymis bilaterally; and neurological deficits that consisted of distal upper and lower extremity motor neuropathy, bilateral footdrop, and lower extremity sensory deficits.

Laboratory evaluations revealed a normochromic, normocytic anemia with a hemoglobin level of 9.9 gm/100 ml; hematocrit value 30%; and mean corpuscular volume (MCV), 89.5. The white blood cell count was 21,500 with 84% segmented neutrophils, 3% bands, 7% lymphocytes, 1% monocytes, and 1% eosinophils. Liver enzymes were mildly elevated with an serum glutamic oxaloacetic transaminase (SGOT) of 170 IU (normal, 22-44), lactic dehydrogenase (LDH) of 300 IU (normal 100-190), and alkaline phosphatase serum level of 205 IU (normal 50-136). A hepatitis screen was positive for hepatitis B surface antigen and the antibody to hepatitis B core antigen, and it was

The signs and symptoms of polyarteritis nodosa (PAN) are often attributed to other causes or organ pathology. This article describes the case of a patient with the classic multiple organ system involvement of PAN. Diagnosis was confirmed by biopsy and abdominal arteriography.

Dr. Sirridge is Professor of Medicine, Mr. Grin is a Fifth Year Medical Student and Mr. Johnson is a Fourth Year Medical Student, University of Missouri-Kansas City School of Medicine.

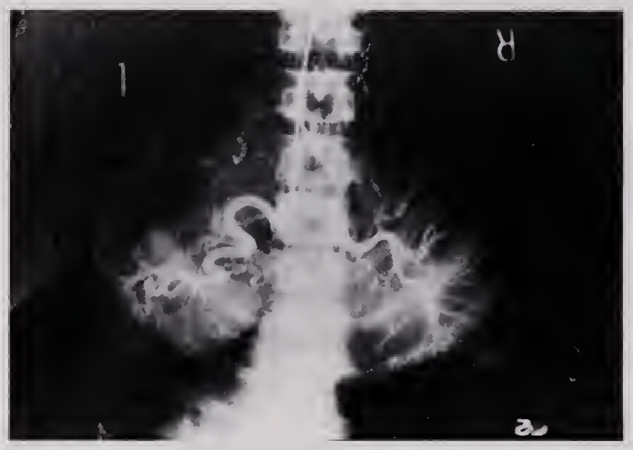

Fig. 1 Abdominal arteriogram demonstrates aneurysms of the small and median arterioles in branches of the right hepatic and the celiac artery.

negative for antibody to hepatitis A. During hospitalization, 2+ proteinuria developed. However, the serum creatinine value remained at 0.8 mg/dl. The sedimentation rate (ESR) at admission was 69 and increased to 99. Antinuclear antibody, rheumatoid factor, porphobilinogen, monospot, Venereal Disease Research Laboratory (VDRL), MHA-TP, and cryoglobulins were negative. Cultures of blood, sputum and urine were negative. T cell studies were obtained to rule out acquired immune deficiency syndrome (AIDS) with a $T_4:T_8$ ratio of 1:1 (< 0.9 being significant).

Initially, the patient's testicular pain was thought to be due to epididymitis and the patient was treated accordingly with antibiotics. Despite this treatment, the pain persisted. CT scan of the lumbar spine was obtained for evaluation of his severe back pain and revealed an extradural defect at $L_{4\text{-}5}$ that was believed to be a displaced disc. This was confirmed by myelogram. An electromyogram (EMG) was obtained for evaluation of the neuropathy and was consistent with a peripheral rather than central lesion. A lymph node biopsy was performed. The pathology report was that of a reactive lymph node with mixed follicular hyperplasia and paracortical expansion.

Bone marrow examination indicated only panhyperplasia. A sural nerve and muscle biopsy revealed a hypersensitivity vasculitis involving the arterioles. An abdominal arteriogram demonstrated aneurysms of the small and median arterioles in branches of the right hepatic and celiac artery (Fig. 1).

The patient was started on a regimen of 30 mg of prednisone twice a day and 100 mg of cyclophosphamide daily with a dramatic resolution of abdominal and testicular pain as well as an increased appetite within two days. Distal muscle weakness was greatly improved to the extent that the patient was able to ambulate with a walker within a week. Despite treatment of hypertension with 50 mg of hydrochlorothiazide daily and 0.6 mg of clonidine twice daily, the patient's blood pressure remained elevated at 150/100.

DISCUSSION

Polyarteritis nodosa (PAN) is a necrotizing vasculitis primarily involving arteries of medium to small caliber. The lesions occur in segments of vessels throughout the body and produce a variety of clinical symptoms associated with the organ systems most severely affected. Commonly involved are the coronary and mesenteric arteries and those supplying the kidneys, muscles and peripheral nerves. In classic PAN, the pulmonary arteries are spared.[1-3]

The lesions have a predilection for arterial bifurcations. As the vessel walls weaken, small aneurysms result and give a grossly beaded appearance. The aneurysms represent the acute phase of an ongoing disease process. Fibrosis with narrowing and thrombosis may subsequently occur. Histologic variation correlates well with the most recent views of the pathogenesis of the disease: autoimmune or hypersensitivity related injury due to repeated or continuous antigen exposure. Hepatitis B surface antigen has been implicated as a causative factor in more than 30% of the patients with polyarteritis.[4, 5]

Polyarteritis nodosa is a relatively uncommon disorder, occurring in men two to three times more often than in women and most commonly in their middle age. There is no known racial or familial predisposition. Initially, constitutional symptoms of fever, anorexia, weight loss, myalgias and arthralgias dominate the clinical picture. With disease progression, cutaneous, neuromuscular, genito-urinary, cardiovascular, and gastrointestinal system involvement occurs.[6]

Purpura is the most common evidence of skin involvement. Rarely, there are crops of subcutaneous nodules following the involved arteries.

Muscle pain or weakness reflects either direct involvement of the arterial supply to muscles or peripheral neuropathy from vasa nervorum damage. Peripheral nerve involvement may be either sensory, presenting as numbness and paresthesia, or a combined sensory-motor disorder manifesting as mononeuritis multiplex or polyneuropathy. Wrist or footdrop are common deficits that show little improvement after therapy.[7]

Renal disease is present in 70% to 80% of the patients with PAN.[3, 4] Symptoms of glomerulonephritis occur commonly with elevation of serum creatinine and proteinuria serving as monitors of disease progression and therapeutic response. Hypertension, secondary to renal disease, may be mild and sustained and may fluctuate strikingly, suggesting pheochromocytoma. If renal stenosis is marked, the hypertension may be clinically severe. Rarely, the vessels of the bladder may be affected, producing hemorrhagic cystitis. Testicular infarctions with severe pain and subsequent atrophy occur more often than with any other disease process.

Coronary vessel damage in the form of arteritis or occlusion leads to cardiac insufficiency or myocardial infarction. Pericarditis with or without effusion may occur and, if vessels subsequently rupture, there may be tamponade. Direct myocardial injury or the effect of PAN on the kidneys often causes congestive heart failure.

With mesenteric artery involvement, intestinal ischemia to the extent of infarction may occur and be a predominant clinical manifestation. Although a high percentage of those contracting PAN have positive Hepatitis B surface antigen, liver involvement due to PAN alone may cause an elevation of liver enzymes. Clinically, Hepatitis B does not alter the course or prognosis of the disease.[7]

The diagnosis of PAN rests largely on a high index of clinical suspicion and, ultimately, on a histological confirmation via biopsy of a vascular lesion. Anemia is commonly present due to the inflammatory process or blood loss, and neutrophilic leukocytosis is present in more than 70% of the patients.[8] Additionally, the erythrocyte sedimentation rate (ESR) is often increased. Other abnormalities reflect direct organ involvement, e.g., proteinuria and hematuria with kidney involvement. Arterial angiography is of value in confirming the pathologic diagnosis.[6, 9]

The treatment for PAN is primarily with corticosteroids that bring dramatic improvement of symptomatology in approximately 55% of the cases.[2, 7, 8] Recently, cyclophosphamide has been used in combination with corticosteroids and appears to be efficacious.

The five-year survival rate is approximately 55% as demonstrated in studies by Sack and associates in 1975[10] and more recently in a Mayo Clinic study by Cohen and Conn.[7] The prognosis appears to depend on the presence and degree of visceral involvement. Gut infarction and severe renal insufficiency are poor prognostic signs. The presence of neuropathy and hypertension alone, however, does not influence the prognosis.[7, 11]

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Felix E. F. Larocca, M.D., Medical Director at St. John's Mercy Hospital in St. Louis, has announced that a new quarterly journal titled *Eating Disorders: Research and Treatment* will be published. The journal will cover theoretical, clinical and research aspects of eating disorders, appetite, gustation, dieting, psychopharmacology, neurobiology, physical activities, neuroendocrinology and animal research as they relate to eating disorders.

The journal will be indexed, referred and directed by an editorial board. Dr. Larocco will serve as editor-in-chief. SP Medical and Scientific Books (a division of Spectrum Publications, Inc.) will publish the journal that will appear in either the fall of 1985 or January of 1986.

ROBERT A. WRIGHT, D.O., *and*
M. ROBERT HILL, M.D., *St. Louis*

Pneumonia and Meningoencephalitis in a Female Adolescent

Case Report

NONRESPIRATORY MANIFESTATIONS of *Mycoplasma pneumoniae* infections are not rare and can involve virtually every organ system. Recent reviews and case reports have emphasized the importance of *Mycoplasma pneumoniae* as an etiologic agent in peripheral and central nervous system infections. The authors describe a patient with *Mycoplasma* pneumonia complicated by meningoencephalitis and review the literature.

CASE REPORT

A 13-year-old girl was admitted with a one-week history of a productive cough with yellow sputum, fever, malaise, nausea and vomiting. She had been given 250 mg of penicillin every six hours for three days without having seen a physician. There was no history of hemoptysis, chest pain, shortness of breath, pharyngitis, ear pain or discharge.

She had been seen earlier on the day of admission and was found to have a right lower lobe pneumonia, but her guardian refused to permit the girl's admission to the hospital. Enroute home from the emergency room, the auto in which the patient was a passenger was involved in an accident and she sustained minor head trauma without loss of consciousness. She was immediately returned to the hospital and complained of headache and nausea with vomiting.

A physical examination showed a somnolent teenager who could be aroused to verbal stimuli with difficulty. Vital signs showed a temperature of 100F (oral); pulse rate, 110; respirations, 20; and blood pressure, 120/76. There was no rash, pharyngitis or sign of head trauma. The right tympanic membrane was slightly inflamed and there was moderate cervical lymphadenopathy. A chest examination showed right lower lobe rales without other signs of consolidation. A neurologic examination showed altered mental status with no other abnormalities. Results of the remainder of the physical examination were normal. Admission laboratory tests revealed the following values: white blood cell count (WBC), 13,300 cells/cmm with 8 bands and 73 segmented neutrophils: hemoglobin, 14.8 gm./dl; and hematocrit, 42%. Her chemistry profile was normal except for lactic dehydrogenase (LDH) of 262 IU/L (90-190) and alkaline phosphatase of 177 IU/L (50-136). Urinalysis was normal. Sputum gram stain revealed many white blood cells and mixed organisms without predominance of gram positive diplococci. Sputum culture grew moderate normal pharyngeal flora. Blood cultures were negative. Cold agglutinins were positive with titer of 1/128. A chest radiograph showed a right lower lobe infiltrate (Fig. 1).

Nonrespiratory manifestations of *Mycoplasma pneumoniae* infections are well known and were reported as early as 1938. The diagnosis of such an infection involving the central nervous system (CNS), however, is presumptive because isolation of the organism from neural tissue is difficult. This article includes a case report of CNS involvement in *Mycoplasma* pneumonia.

Dr. Wright is Chief Resident and Dr. Hill is Chief of Medicine and Director of Medical Education, Deaconess Hospital.

The patient was started on a regimen of 500 mg of erythromycin administered orally every six hours for presumed *Mycoplasma* pneumonia. She remained lethargic without other neurologic signs or symptoms on the second hospital day. Because of the head trauma, a CT scan of her head was done on the afternoon of the second hospital day and it was normal. On the third hospital day, her mental status was unchanged; she complained of headache, was febrile (101F), and had nuchal rigidity. Her white blood cell (WBC) count was 16,200 cells/cmm with 3 bands and 84 segmented neutrophils. A lumbar puncture was performed and revealed opening pressure, 140 mm Hg; closing pressure, 110 mm Hg; blood glucose, 56 mg/dl (serum glucose 121 mg/dl); protein, 60 mg/dl; and WBC count, 225 with 85% lymphocytes and 15% segmented neutrophils. Red blood cell (RBC) count was 10. Gram stain and culture were negative. Counterimmunoelectrophoresis of cerebrospinal fluid (CSF) for *H. influenza* type B, *S. pneumoniae* (Pools A-I), N. *meningitidis* and Group B *Streptococcus* later proved to be negative.

Because of the possibility of a partially treated bacterial meningitis, she was started on a regimen of 24 million units of penicillin G intravenously for ten days in addition to the erythromycin. By the fifth hospital day, she had defervesced and her mental status had returned to normal. Repeat lumbar puncture on the 13th hospital day revealed a WBC count of 26 with 100% lymphocytes and no RBCs. Protein level was 55 mg/dl and blood glucose level was 51 mg/dl. She remained afebrile with normal mental status and was discharged on the 14th hospital day. The acute *Mycoplasma* antibody titer (complement-fixation) returned positive at 1/2048. The convalescent mycoplasma antibody obtained three weeks later was positive at more than 1/60,000 titer. The patient has been observed for the past year and is well without neurologic sequelae.

Discussion

Nonrespiratory manifestations of *Mycoplasma pneumoniae* infections are well known.[1] Neurologic manifestations of atypical pneumonia were reported as early as 1938 by Reimann.[2] Since that time, incidences of central and peripheral nervous system dysfunction in patients with *Mycoplasma* infections have varied from 0.1%[3] to 7%[4] of hospitalized cases. Pönkä's review in 1978[5] yielded 87 patients with neurologic manifestations of *Mycoplasma pneumoniae* infection since this organism was first identified in 1962. Since 1978, an additional 50 patients with neurologic manifestations of mycoplasma infection have been described.[6]

The degree and spectrum of nervous system involvement is quite variable. Reimann recognized the degree of involvement to range from headache and drowsiness to coma. Hodges *et al*[7] classified central nervous system (CNS) complications into four types: psychosis, meningitis, meningoencephalitis and radiculopathy. In the 87 patients reviewed by Pönkä, the neurologic complications were the following (in the order of frequency): encephalitis and meningoencephalitis, 33; polyradiculitis, 24; aseptic meningitis, 10; acute cerebellar ataxia, 8; cranial nerve neuropathy, 5; acute psychoses, 3; transverse myelitis, 3; and phrenic nerve paresis, 1.

The diagnosis of *Mycoplasma pneumoniae* infection involving the CNS is presumptive because isolation of the organism from neural tissue and CSF is difficult. Bayer *et al*,[8] utilizing sophisticated radioisotopic and immunofluorescent techniques, demonstrated heavy spinal fluid *Mycoplasma pneumoniae* infection in a man with strong clinical evidence of peripheral and central nervous system *Mycoplasma* infection. Despite the evidence for direct CSF infection in this patient, Bayer was unable to culture the organism on inert media. In addition, the neurologic manifestations of *Mycoplasma pneumoniae* are not distinctive and, in fact, mimic the presentation of other bacterial and viral CNS infections. The diagnosis, therefore, is based on the clinical picture of an atypical pneumonic process with meningitis; negative viral serology and virus isolation attempts; negative spinal fluid cultures; and positive serology for *Mycoplasma pneumoniae*.

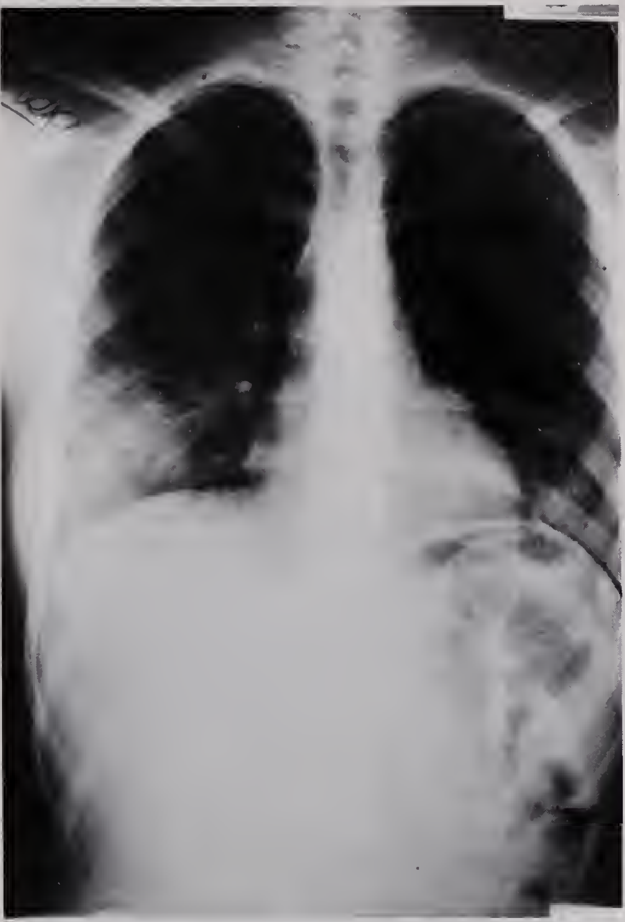
Fig. 1 Chest radiograph shows a right lower lobe infiltrate.

This patient had *Mycoplasma* pneumonia and associated meningoencephalitis. However, viral serology and virus isolation were not attempted and confirmation of an etiologic agent was further confused by the antibiotics taken by the patient prior to the spinal fluid examination. Although a concomitant viral infection could explain the meningoencephalitis, a growing body of case reports of *Mycoplasma* infection associated with nervous system abnormalities and the evidence of direct CNS infection produced by Bayer *et al* makes this relationship appear more causal than

(Continued on page 666)

MARCIA A. KIELHOFNER, JOHN BERTUSO, M.D.,
RICHARD J. HARLOW, JR., M.D., EMMETT MCWOODS, M.D.,
and LAWRENCE DALL, M.D., *Kansas City*

Kaposi's Sarcoma and the Diagnosis of Acquired Immunodeficiency Syndrome

Case Report and Brief Review

The acquired immune deficiency syndrome (AIDS) is defined as the occurrence of an unusual opportunistic infection or a rare malignancy, especially Kaposi's sarcoma (acquired by patients before 60 years of age), in a previously healthy individual who has no apparent cause for immune deficiency. AIDS was first recognized in June, 1981.[1] As of January, 1983, more than 870 cases had been reported to the Centers for Disease Control. At present, two to three new cases are being reported daily and two-year survival statistics are estimated to be 25%.[2]

The syndrome initially was reported in New York City and, then, California among homosexual men and intravenous drug abusers. However, the syndrome has now been recognized nationwide and in ten foreign countries.[3] More recently, AIDS has been described in Haitians,[4] hemophiliacs,[5, 6] infants born to parents who had risk factors for AIDS[7, 8] and patients without any recognized risk factors.

This paper includes the case report of a 32-year-old bisexual man with aggressive Kaposi's sarcoma. In diagnosing the acquired immunodeficiency syndrome (AIDS), the authors note that a careful history and physical examination are the best screening tests. The definitive diagnosis of AIDS requires tissue documentation of an opportunistic infection or Kaposi's sarcoma.

Ms. Kielhofner is a Senior Medical Student and Dr. Bertuso, Dr. Harlow and Dr. McWoods are Residents and Instructors, Department of Internal Medicine, University of Missouri-Kansas City School of Medicine. Dr. Dall is Chief of the Section of Infectious Disease, Truman Medical Center.

Numerous theories have been postulated concerning the etiology of AIDS. Perhaps the most plausible etiologic agent is a yet-to-be-identified virus. The disease has been linked to recurrent cytomegalovirus infections[9] as well as to Epstein-Barr virus seropositivity and to antibodies to asialo-Gm (an antigen found on sperm).[10] These theories were postulated when AIDS was considered to be a disease restricted to homosexuals and intravenous drug abusers. With the more recent discovery of the syndrome in patients who are not members of these groups, however, the theories no longer fit the epidemiology of the disease as it is currently understood.

Gay organizations are taking steps to educate and protect their members, and AIDS has recently received national media attention. All of these facts have generated a great deal of public interest and often anxiety. As a result, increasing numbers of physicians will be confronted with patients and staff concerned about having or contracting the disease or requesting information about the disease. For this reason, we present this case as well as a discussion of the syndrome.

Case Report

A 32-year-old bisexual white man was referred to Truman Medical Center in Kansas City, Mo. on June 6, 1983 for evaluation of biopsy-proven Kaposi's sarcoma. The patient first noted a flat, violaceous lesion on the calf of his right leg in February, 1983. Similar lesions soon appeared on his arms, trunk and face. He went to a dermatologist in his home town and a biopsy of a specimen of the initial lesion on May 23, 1983 was consistent with Kaposi's sarcoma (Fig 1).

Additional complaints included night sweats, chills and increasing dyspnea on exertion during the prior two months. The patient admitted to a 12 lb weight loss over a period of six weeks. He had also experienced intermittent diarrhea of two to three semiformed stools daily.

His past medical history included syphilis, which

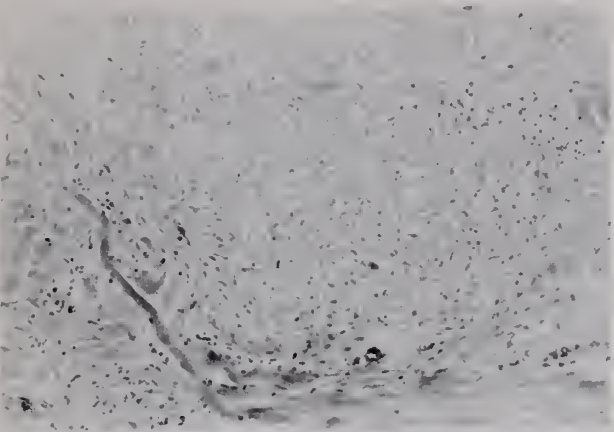

Fig. 1 Biopsy specimen of one of the patient's skin lesions diagnosing Kaposi's sarcoma. Note vascular slits lined with erythrocytes, presence of multiple spindle cells, and extravasated erythrocytes in the surrounding stroma.

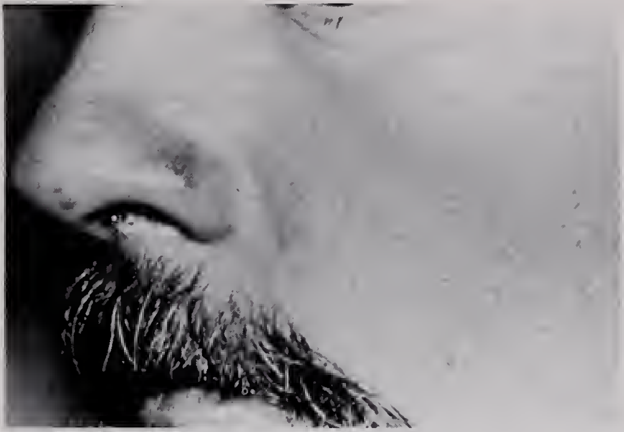

Fig. 2 Fresh (two weeks) Kaposi's lesion involving the nose.

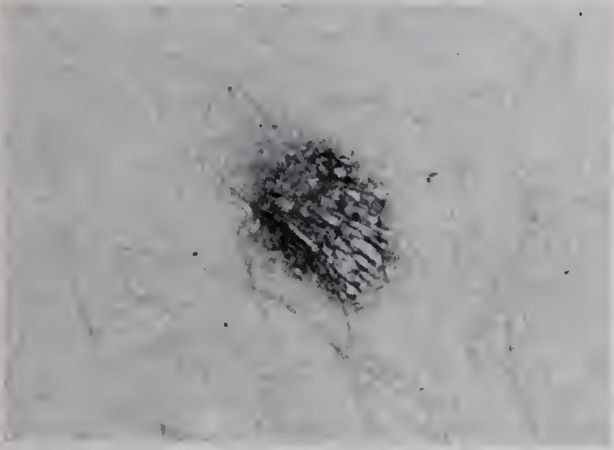

Fig. 3 Kaposi's sarcoma. Typical violaceous plaque, this lesion was found on the patient's thigh.

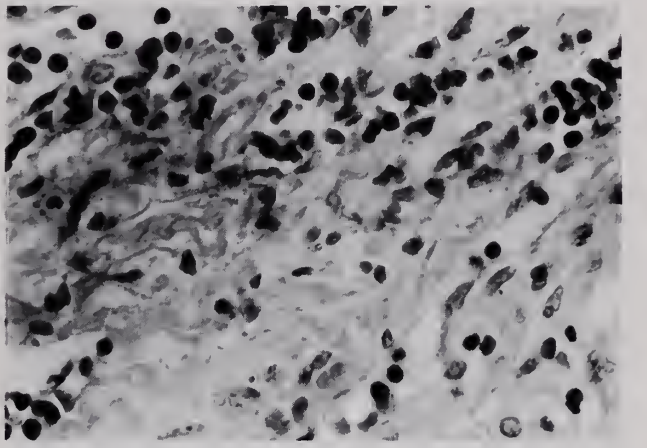

Fig. 4 Specimen from lymph node. Normal nodal architecture is lost and replaced by the same histology as noted in the skin lesion. Hemosiderin deposits are also noted in the lower left hand corner.

was treated in 1977, and infectious mononucleosis in 1974. There was no history of a blood transfusion. The patient admitted to occasional use of amyl nitrite and amphetamines, but denied use of intravenous drugs. His sexual history disclosed that the patient is bisexual. He admitted to only two male sexual partners in the past five years and had been married to his present wife for nine months. His homosexual contacts denied any symptoms or knowledge of individuals with immune deficiency disorders.

The patient has lived in New York and San Francisco. There is no history of prior travel outside of the continental United States. His employment history included work as a farmer for the past two years and as a bartender in San Francisco prior to that time. The patient had never been incarcerated.

A physical examination showed that the patient was afebrile. Other vital signs were normal. There was no scleral icterus. A slightly raised 0.5 cm x 0.5 cm violaceous papule was present on the patient's nose (Fig 2). A similar lesion was noted just anterior to the right tragus. Generalized tender lymphadenopathy was noted. The chest was clear to auscultation. Cardiac examination revealed a grade two over six systolic flow murmur. The abdomen was nontender without hepatosplenomegaly. There were numerous lesions noted on the anterior and posterior thorax and extremities, ranging in size from 0.5 cm x 0.5 cm to 2.5 cm x 1.0 cm (Fig 3). Marked clubbing of the fingers was noted.

Laboratory studies disclosed the following values: hemoglobin, 15.6 gm/100 ml; hematocrit, 47.4%; white blood cell count 5,900/cu mm; with 56% polymorphonuclear leukocytes, 1% bands, 35% lymphocytes, 4% mononuclear leukocytes and 4% eosinophils. Results of chemistry profiles, electrolytes and urinalysis were within normal limits. A Westergren erythrocyte sedimentation rate was mildly elevated at 19 mm/h. Arterial blood gases revealed mild hypoxemia (pO_2 78). Pulmonary function test parameters were all normal, including DLCO. Serum protein electrophoresis pattern suggested a mild polyclonal gammopathy, with a total protein of 8.3 gm per deciliter (normal 5.5-8) and a gamma fraction of 1.6 gm per deciliter (normal 0.7-1.5).

Immune function test results were as follows: Helper T-cells 10.8% (normal 32.3-54.9); Suppressor T-cells 50.3% (normal 14.4-37.7); and T-helper:T-suppressor ratio, 0.21. The patient was anergic to a battery of skin antigens. Serology for syphilis was positive. Lymph node biopsy of a posterior cervical node specimen was consistent with Kaposi's sarcoma (Fig 4).

The patient was referred to Bowyer Oncology Clinic in Los Angeles, Calif. where he is undergoing Alpha II Recombinant Interferon therapy (30 million units per meter square three times weekly). Correspondence with physicians at the University of California-Los Angeles (UCLA) suggests that the patient is showing only a minimal response to the therapy at present.

Interestingly, the patient's wife is now pregnant and is being observed in the High Risk Obstetrics Clinic at UCLA. There has been only one reported incidence of a normal infant born to a female sexual partner of an AIDS victim.

Discussion

AIDS is defined by the presence of a rare, opportunistic infection or Kaposi's sarcoma in an otherwise healthy individual. Such a definition has the obvious shortcoming of not allowing the diagnosis to be made prior to the onset of one or more of the complications of the disease. However, at this time when the etiology of the syndrome is unknown and when there is no specific therapy, this definition is adequate. Furthermore, it has the advantage of not allowing the diagnosis of AIDS to be made inappropriately. This is a concern because many healthy homosexuals and drug abusers have abnormalities of their immune system at times similar to those seen in AIDS.[11] Without a known etiology, there is no way to predict which of these patients will develop the syndrome. Knowledge of the epidemiology of the syndrome is essential in making the diagnosis.

The opportunistic infections that AIDS patients are at risk to contract are caused by low-grade pathogens that are usually handled by the cell-mediated portion of the immune system by the normal host. *Pneumocystis carinii* pneumonia has been the most commonly reported infection.[12] Previously, this disease was reported in patients who were immunologically incompetent because of hematologic malignancy, chemotherapy or corticosteroid treatment. The organism is a protozoan that causes an interstitial pneumonia. No person-to-person transmission has been documented at this time. Other infections seen in AIDS patients are cytomegalovirus, adenovirus, varicella-zoster, oral and esophageal candidiasis,[13] herpes simplex mucosal infections,[14] cryptococcal meningitis, toxoplasmosis,[15] cryptosporidiosis, *Entamoeba histolytica*, tuberculosis and atypical mycobacteria.[16]

Kaposi's sarcoma is a rare malignancy usually seen in men over the age of 60 and predominantly in those of Jewish or Italian descent. It is characterized by blue-black or violaceous papules on the lower extremities. It is usually not very aggressive, is rarely fatal, and is responsive to chemotherapy and radiation therapy.[17]

An aggressive form of Kaposi's exists in African children. In AIDS patients, the disease resembles the African type and occurs at an early age; involves the face, oral cavity, upper extremities, trunk, gastrointestinal tract and lymph nodes as well as the lower extremities; and follows an extremely aggressive course.

An increased incidence of aggressive Kaposi's sarcoma has also been recognized in transplant patients who are immunosuppressed, so it is felt that impaired T-cell function again is the abnormality in Kaposi's sarcoma as in the opportunistic infections. AIDS patients also have an increased incidence of other malignancies, including non-Hodgkin's lymphoma and squamous cell carcinoma of the oral cavity and anus.[3]

Historical information should include sexual preferences and practices; number of sexual partners; venereal disease exposure, including gonorrhea, syphilis, cytomegalovirus, hepatitis B, amebiasis and herpes;[18] history of intravenous drug abuse or inhaled nitrates;[19] travel history; blood transfusions;[20] exposure to drugs, including metronidazole and quinacrine hydrochloride;[18] history of incarceration; and history of symptoms of odynophagia, stomatitis, diarrhea and rectal disorders.

In addition to the usual thorough physical examination, certain aspects should be emphasized. Special attention should be directed toward the examination of the skin. The initial lesions of Kaposi's sarcoma can be quite small and often appear benign. One must also search for evidence of genital herpes infection that may be macular, papular, pustular or ulcerated when the patient is initially seen. A frequent physical finding is prominent cervical, axillary and inguinal lymphadenopathy. The oral cavity should be carefully examined for lesions of thrush or Kaposi's sarcoma. Pulmonary auscultation may reveal crackles, wheezes or rales, but these need not be present even in the face of pneumonia since these patients often do not mount the usual inflammatory response. Finally, careful abdominal examination may reveal hepatosplenomegaly.

Laboratory findings in AIDS provide supportive evidence of the disease but are never diagnostic. A complete blood cell count will frequently show a decreased white blood cell count with a predominant lymphopenia, but anemia is a late finding. There may also be a modest elevation of the erythrocyte sedimentation rate. The chest x-ray may show an interstitial infiltrate suggesting an opportunistic pneumonia, but frequently the chest x-ray is normal. Arterial blood gases may reveal hypoxemia, while pulmonary function tests may demonstrate a decreased diffusing capacity.

In view of the frequently normal chest x-rays, arterial blood gases, pulmonary function tests and gallium scans may provide the only clue to the presence of a pneumonia. If a pneumonia is suspected, aggressive diagnostic procedures such as transbronchial or an open lung biopsy must be performed before antibiotics are started. The *Pneumocystis carinii* organism may not be seen if trimethoprim-sulfamethoxazole has been started previous to the biopsy. Serologic tests for hepatitis B surface and core antigens should be obtained as well as serology for cytomegalovirus, Epstein-Barr virus, herpes and syphilis.

The patient's immune system should be assessed, in part, as a baseline. This should include a determination of the T-helper/T-suppressor ratio, which usually is 0.4 or less. However, this ratio may be within the normal range (normal 1.0-1.5). Various infections, usually viral, can transiently decrease this ratio. Skin tests should be applied to assess T cell function and will usually document anergy.[9] Serum protein electrophoresis and serum immunoglobulin electrophoresis usually show normal or supernormal levels of immunoglobulins G, M and A. Last, a biopsy of specimens of any suspicious skin lesions should be done. If lymphadenopathy is present, a lymph node biopsy should be made. However, a biopsy of inguinal node should be avoided.

The Centers for Disease Control have made recommendations concerning isolation precautions for possible AIDS victims.[21] These include patients hospitalized specifically for evaluation of possible AIDS as well as patients with opportunistic infections or Kaposi's sarcoma; patients at high risk for the development of AIDS; or patients with chronic generalized lymphadenopathy or unexplained fever or weight loss. Care-providers should take special care to avoid needle sticks and wear gloves and gowns when handling blood or other body fluids from possible AIDS patients. A strict hand-washing technique should be followed upon leaving the patient's room. Blood and articles soiled with blood should be labeled as "AIDS precautions." It is advisable for the patient to be in a private room. Of course, it is impossible to isolate a non-hospitalized patient, but it is prudent to advise these patients to restrict their sexual activity and to avoid donating blood products.

Once the diagnosis of AIDS has been made, it is important to notify the Centers for Disease Control. Investigational therapeutic measures are being utilized in several research institutions at the current time. Most of these treatments aim to reverse the immunologic changes seen in AIDS patients.[22]

Synthetic interferon is being evaluated for treatment of Kaposi's sarcoma and has met with mixed results, ranging from no response to complete remission. Thymosin fraction 5 has been utilized in attempts to enhance maturation of uncommitted bone marrow lymphocytes to mature T-cells. More recently, research has been done by cultivating lymphocytes from patients with AIDS and active cytomegalovirus infection with interleukin-2, a lymphokine. Interleukin-2 was found to enhance both CMV-specific and NK cell cytotoxicity in these patients.[23] There has also been experimental work with a number of antineoplastic agents, including doxorubicin, bleomycin and vinblastine.

It is unclear whether prophylactic antimicrobials are beneficial in preventing opportunistic infections in AIDS patients. Two agents are currently being employed in the treatment of *Pneumocystis carinii:* (1) trimethoprim-sulfamethoxazole and (2) pentamidine, which is available only through the Centers for Disease Control. A recent research project suggests that the high-dose trimethoprim-sulfamethoxazole used in this treatment has a significant incidence of toxicity ranging from fever and rash to severe neutropenia, thrombocytopenia and transaminase elevation. In addition, there is a significant percentage of patients who fail to respond to the medication. Pentamidine has been noted to have fewer adverse effects that require discontinuation of the medication.[24]

Summary

In conclusion, the diagnosis of AIDS should be suspected on the basis of a patient's history and physical examination. To confirm the diagnosis, however, a tissue examination documenting the presence of an opportunistic infection or Kaposi's sarcoma is required. Laboratory data should only be considered supportive. Screening patients at risk with determinations of T-cell helper:suppressor ratios or other tests of immune function are not diagnostic, because both of these tests may be abnormal in conditions other than AIDS and because they are not helpful in predicting the subsequent development of AIDS. AIDS patients should be reported to the Centers for Disease Control so that the accumulation of data can continue and the etiologic agent can be identified.

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Pneumonia and Meningoencephalitis

(Continued from page 661)

coincidental. Other proposed pathogenetic mechanisms include the effect of neurotoxin, thrombosis of CNS vessels or an autoimmune process.[5]

The prognosis depends on the type of neurologic manifestation. Aseptic meningitis with *Mycoplasma* infection is benign. However, mortality has ranged from 10% to 15% in patients with meningoencephalitis and encephalitis.[5] Incidences of persistent neurologic sequelae have ranged from 20%[5] to 33%[9] and occurrence is most common after encephalitis or polyradiculitis. The effect of treatment is unknown.

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Primary Pulmonary Leiomyosarcoma With Digital Clubbing and Pleural Effusion

Case Report

Although clubbing of fingers and toes in association with primary pulmonary leiomyosarcoma in a North American patient has not been reported since 1940, the authors describe a case of this tumor associated with clubbing and hemorrhagic pleural effusion.

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FEWER THAN 100 primary pulmonary leiomyosarcomas have been reported in the literature. Clubbing of fingers and toes in association with primary pulmonary leiomyosarcoma has not been described in a North American patient since 1940.[1] In addition to digital clubbing, the patient in the case reported here had a hemorrhagic pleural effusion associated with this tumor.

CASE REPORT

This 74-year-old man was a non-smoker. He entered his local hospital because of atrial fibrillation and hypoglycemia (serum blood glucose, 38 mg/dl). A physical examination revealed dullness to percussion and decreased breath sounds in the lower half of the right hemithorax. The chest roentgenogram revealed a large right lung mass and pleural effusion (Fig. 1). Serum glucose levels of 38-51 mg/dl were recorded on several different days prior to transfer to the University of Missouri-Columbia Medical Center.

The patient was stuporous on arrival although the serum blood glucose level was normal. A computed tomographic brain scan and lumbar puncture failed to show the cause of the stupor. Thoracentesis revealed grossly hemorrhagic fluid with protein 4.2 gm/dl; white blood cell (WBC) count 5,932/cu mm with 58% eosinophils, 25% monocytes and 10% lymphocytes. A pleural biopsy showed chronic inflammation. No further diagnostic tests were performed because the patient remained comatose. He died 16 days after admission.

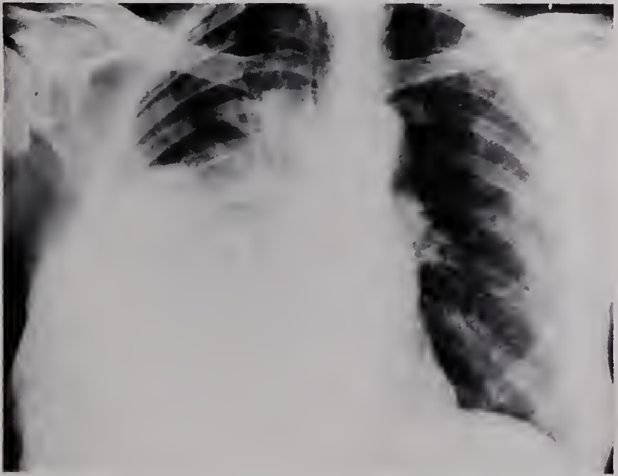

Fig. 1 Chest roengenogram demonstrates large tumor and pleural effusion.

An autopsy revealed large thromboemboli in the left pulmonary artery. A 20 x 19 x 11 cm firm, tan, fleshy tumor completely replaced the right lower lobe. Neither metastases nor other primary tumors were detected after careful gross and microscopic examination of all organs.

Light microscopy of sections of the lung tumor showed spindle-shaped cells with enlarged, hyperchromatic, cigar-shaped, cytologically atypical nuclei arranged in an interlacing fascicular pattern (Fig. 2). Mitoses were present in approximately one in 20 high power fields (Fig. 2, insert). The trichrome stain showed red staining of tumor cell cytoplasm and blue staining of extracellular collagen. Electron microscopic examination confirmed the light microscopic impression of leiomyosarcoma by revealing bundles of thin cytoplasmic myofilaments attaching to the plasma membrane by dense plaques.[2]

COMMENT

The tumor described above represents a primary pulmonary leiomyosarcoma since no other source was discovered after a complete postmortem examination. Digital clubbing in association with this tumor was first reported in 1940.[1] Since then, three additional cases have been reported from Great Britain.[3, 4] Only five of approximately 87 reported patients (6%) with primary pulmonary leiomyosarcoma have had clubbed digits.

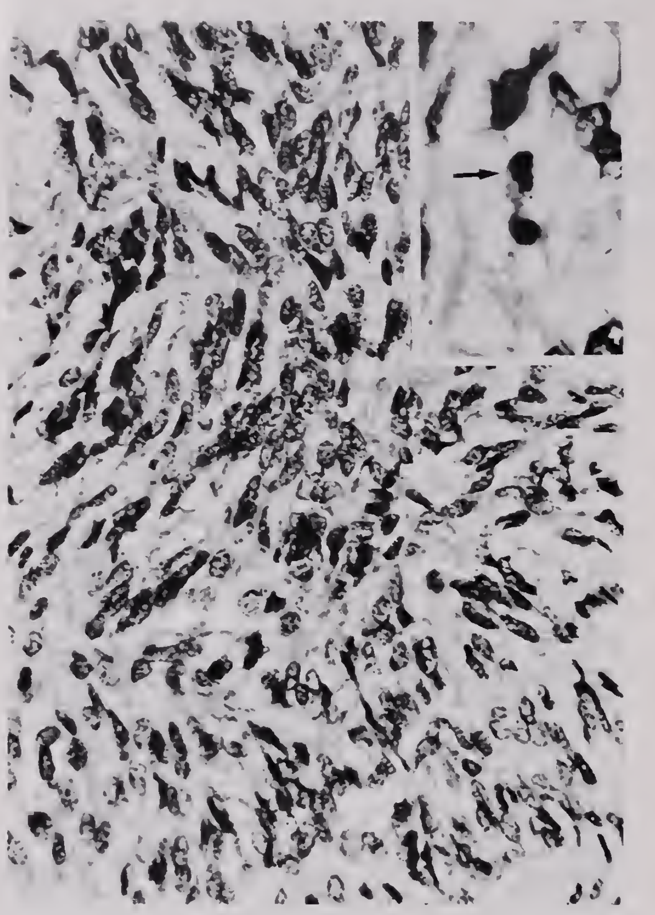

Fig. 2 Photomicrograph of the pulmonary tumor shows the fascicular arrangement of blunt spindle-shaped nuclei (H & E x 160). Insert in upper right corner shows a mitosis *(arrow);* (H & E x 400).

The hypoglycemia noted in our pateint is known to occur with large pulmonary leiomyosarcomas.[5] Although pleural effusion has been reported to rarely occur[6] to our knowledge, hemorrhagic pleural effusion appears to be a previously unreported finding in this disease. Common causes of hemorrhagic pleural effusion such as chest trauma, tuberculosis or pulmonary infarction were not detected by history or postmortem examination of the right lung.

Bronchogenic carcinoma or mesothelioma would be the most likely diagnoses when confronted with a lung mass, pleural effusion and digital clubbing. Primary pulmonary leiomyosarcoma will rarely be included in the differential diagnosis since it has been estimated that there are 500 carcinomas for every sarcoma of the lung.[7] It is not known if surgical resection of the tumor leads to regression of the clubbing.

A physical examination of the digits continues to be an important aid in the diagnosis of diseases of the thorax. Primary pulmonary leiomyosarcoma should be considered in the bedside differential diagnosis of a lung mass associated with digital clubbing.

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Things cannot always go your way. Learn to accept in silence the minor aggravations, cultivate the gift of taciturnity and consume your own smoke with a burst of hard work. Then those around you will not be annoyed with the dust and soot of your complaints. — *William Osler*

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Cellular Immunity in Multiple Sclerosis

Implications for Pathogenesis and Treatment

Multiple sclerosis (MS) is an acquired demyelinating disease of the brain and spinal cord affecting more than a quarter of a million people in the United States. In spite of active research during the last 30 years, knowledge of its etiology and pathogenesis is incomplete. Also, available treatments are marginally effective.

Epidemiologic evidence supports the role of an infectious agent, probably viral; measles and canine distemper viruses have received considerable attention. Associations of the disease with specific histocompatability (HLA) types suggests a genetic susceptibility to MS. Perhaps of greatest potential for the understanding of MS are those recent investigations that have led to a revised appreciation of immunologic factors in the pathogenesis of MS. In this paper, discussion is confined to some of these immune mechanisms and their implications for treatment modalities offered to MS patients.

The histologic features common to the various clinical forms of MS have long incriminated the immune system in the disease process.[1] Accumulations of lymphocytes around small veins are prominent early in the development of demyelinated plaques; these are associated with macrophages and plasma cells that are also distributed in the periphery of the lesions. In later stages of disease, oligodendroglia and myelin basic protein (MBP) are reduced in the growing plaques and the surrounding relatively unaffected white matter. It appears that some element of the oligodendrocyte-myelin system is the target of immune attack.

Demyelination can be induced in laboratory animals by immunologic means in an experimental model of MS known as experimental allergic encephalomyelitis (EAE).[2] Injection of CNS myelin or its fragments along with adjuvant materials induces this chronic demyelinating process with histologic features similar to MS. EAE allowed the identification of myelin basic protein as a specific antigenic stimulus for demyelination, suggesting the role of MBP as an antigen in MS. In EAE, one can demonstrate tolerance, passive transfer with sensitized lymphocytes, and suppression with steroids, which further support an immune mechanism of disease. Its limitations as a model of MS have been the more destructive nature of the EAE lesions and its monophasic, relentlessly progressive course.

While the diagnosis of classic MS is based on the recognition of two or more discrete episodes of neurologic dysfunction, certain laboratory findings can be suggestive.[1] At the time of an acute attack, the cerebrospinal fluid (CSF) will often reveal an increase in MBP. As the disease progresses, CSF protein electrophoresis will usually demonstrate increased IgG present as several discrete bands. These oligoclonal bands represent concentrations of homogeneous immunoglobulins and can be found in about 90% of patients with clinically established MS regardless of clinical disease activity. While the increase in MBP as well as the presence of oligoclonal bands may support the diagnosis, neither of these findings is pathognomonic for MS.

Although the specificity of these CSF immunoglobulins remains obscure, one can show that they arise de novo from the CNS of MS patients rather than by being produced systemically.[3] Clones of intrathecal lymphocytes are probably responsible for this homogeneous immunoglobulin production. However, increased IgG is not present in the CSF of all patients with MS, and the role of these immunoglobulins in the pathogenesis of disease is speculative.

Immunopathogenesis

Although these abnormalities of CSF immunoglobulins have been recognized for some time, much recent research has focused on immunologic alterations in the peripheral blood. Several aspects of immune responsiveness have come under scrutiny, including antigen-antibody complex formation, interferon production, and T lymphocyte and macrophage activation. Two specific mechanisms of immune reactivity are apparently altered in MS, perhaps contributing to pathogenesis: (1) an increase in antibody dependent cellular cyto-toxicity (ADCC) and (2) a disturbance of "immunoregulation," the putative interactions between various lymphocyte subpopulations.

A brief review of humoral and cellular immunity may help to clarify the possible role of ADCC and defective immunoregulation in MS. The B lymphocytes and plasma cells are stimulated by most bacterial antigens to produce specific immunoglobulin antibodies. These antibodies bind with the antigens and complement inducing bacteriolysis and phagocytosis by macrophages and polymorphonuclear leukocytes. T cells, on the other hand, are directly responsible for tissue graft rejection, delayed hypersensitivity reactions, and response to viral and fungal antigens with the production of lymphokines. Several species of lymphokines have been identified, the roles of which are to directly affect the antigen by inducing cell death and to promote other T cells and macrophages to respond to the antigen.

Complex interactions between B lymphocytes and T lymphocytes are demonstrated in the process of antibody dependent cellular cytotoxicity. In an ADCC response, killer (K) cells, an identifiable subset of T lymphocytes, destroy target cells coated with immunoglobulin in the absence of complement. This mechanism requires the presence of antibodies secreted by B lymphocytes or plasma cells in response to a specific antigen (Fig. 1). These antibodies bind to surface antigens on a target cell and are then bound by specific receptors on K cells that induce cell lysis. T cells can be divided into subclasses based on their immunoglobulin binding preferences: T_G cells have receptors for IgG, T_M cells for IgM, and T_{GM} cells for both. It appears that cells capable of binding IgG, T_G and T_{GM} cells are critical for ADCC function.

Differences in these specific binding characteristics have been noted in patients with various immunodeficiency and autoimmune diseases. In patients with MS, a rise in the relative number of T_G cells has been noted,[4] and T_{GM} cells may constitute as much as 30% to 50% of the T_G cell population; the fraction is less than 10% in normals.[5] In addition to an alteration of ADCC system subpopulations, analysis of peripheral blood lymphocytes in MS patients with active disease shows increased cytotoxic effects as measured by an ADCC plaque assay and an assay for release of radio-labeled metabolites.[6] From these observations, a simple hypothesis for MS pathogenesis is proposed: the increased T_{GM} subpopulation is responsible for an ADCC reaction directed against the target antigen of CNS white matter. The increase in T_{GM} cells demonstrated by available assays may actually represent an increase in receptors for IgG and IgM subsequent to some new or altered antigen within the CNS. Alternatively, some disruption of the immune system might result in an uncontrolled ADCC response to normal antigens. Enough gaps exist in our knowledge of the specific antigens and the correct sequence of events to make these concepts inconclusive but with the potentially creative effect of generating hypotheses for future research.

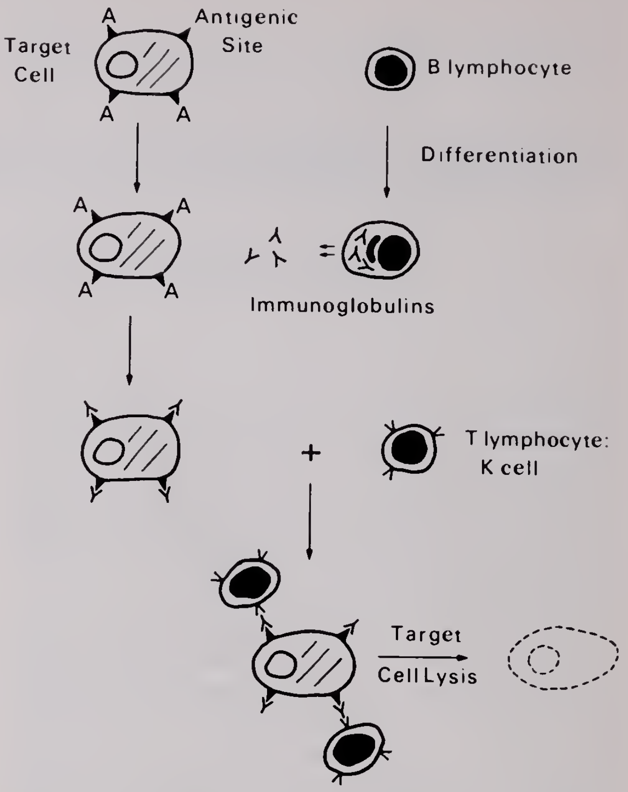

Fig. 1 Antibody Dependent Cellular Cytotoxicity (ADCC). B lymphocytes or plasma cells exposed to cell surface antigens produce and secrete antigen specific antibodies that bind these antigens. Killer (K) cells with specific antibody receptors subsequently bind these antibodies — attached to a target cell, inducing cell lysis. (Redrawn from Benaceraff B, Unanue ER. Textbook of immunology. Baltimore, Williams and Wilkins Co., 1979.)

The authors review the features of multiple sclerosis (MS) that have implicated the immune system as an important mechanism in the pathogenesis of this disease. They also discuss current concepts of cellular immunity and the roles of various lymphocyte subpopulations. Alterations of these specific subpopulations of circulating lymphocytes suggest that an enhancement of antibody-dependent cellular cytotoxicity (ADCC) as well as a loss of immunosuppression occur in patients with clinically active MS. In addition, recently studied treatment regimens are discussed in light of their role in modification of the cellular immune system and prevention of the proposed autoimmune nature of MS demyelination.

Mr. Thompson is a Fourth-Year Student and Dr. Davenport is Assistant Professor of Neurology, University of Missouri-Columbia School of Medicine.

Both humoral and cellular components of the immune system are subject to complex interactions between certain T lymphocytes that comprise an immunoregulatory network modulating all immune responses. Regulatory T cells consist of T suppressor (T_S) and T helper (T_H) cells. T_H cells induce B cell proliferation and antibody production, T cell lymphokine secretion and T cytotoxic cell response. T_S cells restrict these immune responses by suppressing T_H cell activity. Normally, a proper balance of suppressor and helper activities provides the organism with an appropriate response to foreign antigens while avoiding activity against those identified as "self." Excessive suppression or reduced helper function leads to immune deficiency states. The reverse imbalance contributes to autoimmune phenomena.

Evidence favoring a disturbance of immunoregulation in MS has been obtained quantitatively with the use of monoclonal antibodies directed against specific T lymphocyte surface antigens.[4, 8, 9] This technique allows identification of various T cell subpopulations in the peripheral blood of patients with MS.

Normally, human T_H and T_S cells circulate at levels that maintain a proper balance between induction and suppression of immune response. Peripheral lymphocytes from patients with an acute MS relapse or with chronic progressive MS have a greatly reduced T_S cell population as well as other changes in other subpopulations, resulting in an increase in the $T_H : T_S$ ratio. This tendency toward decreased immune suppression suggests that autoimmune phenomena may have a role in MS.

In addition to monoclonal antibody labeling showing altered subset census, a reduction of suppressor cell activity has been demonstrated by functional assays.[10] T lymphocytes are added to responder lymphocytes in the presence of conconavalin A, a nonspecific stimulus of T_S cells. A reduction in the uptake of radiolabeled metabolites is correlated with a suppression of deoxyribonucleic acid (DNA) synthesis in the responder lymphocytes. Patients with active MS demonstrate a 90% reduction in suppression as compared to controls. This functional loss of suppression by peripheral blood lymphocytes of patients with MS is consistent with the demonstration of a reduced number of T_S cells.

Again, in the absence of key information, several pathogenetic hypotheses have been offered for this reduced T_S cell number and suppressor function in MS patients. First, the T suppressor cells may migrate into the CNS where they are the cells responsible for autoimmune myelin destruction. Second, the T_S cells might be sequestered in some peripheral tissue compartment or antigenically altered to such an extent that they are undetected by current methods and have no key function in MS activity. Third, T suppressor cells may share a common antigen with some component of neural tissue that is the target of an autoimmune response, and these T suppressor cells would then be coincidently destroyed. In fact, monoclonal antibodies specific for T_S cells have been found to label oligodendrocytes, the presumptive target of immune attack.[11] The reduction in T_S cells, therefore, may be a primary pathogenetic step of MS activity or it may be secondary to the disease process.

The demonstrated ADCC mechanisms and the alteration of immune regulation are difficult to synthesize into a logical construct for the pathogenesis of MS. Several important issues have not yet been resolved. First, the specific antigen target of the lymphocyte response remains to be precisely identified; its location on the oligodendrocyte membrane or its myelin component has not been determined. Second, the initiating cause of the abnormal immune response is unknown, although epidemiologic evidence points to some early life viral infection as the inciting event.[12] In addition, the host patient may have a specific genetic tendency toward the abnormal immune mechanisms, as suggested by the association of MS with certain HLA types.[1] An intriguing possibility is that each clinical type of MS may have a different pathogenesis, with antigenic specificities, the degree and nature of immunoregulatory alterations and genetic and external factors all contributing to the expression of the illness in a given patient.

Therapeutic Considerations

While these important questions about antigen specificity and precise immunopathogenesis remain unanswered, current therapeutic maneuvers accept in part the immunogenic hypothesis in attempting a nonspecific suppression of overall immune responsiveness.[13] Corticosteroids and adrenocorticotropic hormone (ACTH) have been used for 30 years with variable benefit. In the only convincing scientific study of steroid therapy, short-term ACTH administration was evaluated in patients with acute MS relapse.[14] ACTH was shown statistically to reduce the severity and duration of individual acute exacerbations but had no apparent long-term benefits on the course and outcome of the disease. The intermittent or occasional use of oral corticosteroids to achieve the same benefits has been advocated and supported by anecdote, as well as small-scale studies. While the approach seems rational, it has never been subjected to a large-scale inquiry. Thus, its value remains unproven.

Similar uncertainty exists in regard to the use of cytotoxic immunosuppressants that have demonstrated favorable effects on the progression of disease in some MS patients.[13] Azathioprine, chlorambucil, levamisole, melphalan, podophyllin, cyclophosphamide and other drugs have been utilized in the treatment of MS. However, much of the evidence supporting the use of any single agent is controversial, and toxic side effects are considerable. Recently, the effect of short-term intensive immunosuppression by using high-dose cyclophosphamide and ACTH was compared to ACTH alone in a clinical trial.[15] Eighteen of 20 patients receiving cyclophosphamide plus ACTH improved or stabilized at six months while only eight of 20 patients who received ACTH alone showed favorable effects. These benefits persisted through one year, after which time some relapses occurred. Cyclophosphamide is reported to be more lymphocytotoxic than other immunosuppressants. This may explain in part the more successful response. While the side effects of short-term cyclophosphamide are known, the long-term complications of this protocol are undefined. Although the results of this approach are encouraging, the high cost for hospitalization and the risks involved make the treatment appropriate at this time only for the experimental studies that are underway. In addition, the necessity of ACTH in the combined approach is still undetermined.

A new immunosuppressive drug receiving much attention in transplantation immunology is cyclosporin A. Although cyclosporin A has not undergone clinical trials in the treatment of MS, many of its features indicate that it may be useful in the immunotherapy of MS. Cyclosporin A prevents the development of EAE in rats, and it has been demonstrated to inhibit antigen-induced lymphocyte proliferation.[16] In fact, the drug selectively inhibits T cells with no significant effect on the B cell population, reducing the risk of concurrent infections. Cyclosporin A normalizes the $T_H:T_S$ cell ratio by selectively inhibiting T_H cell generation. This might confer a theoretical benefit for MS patients who demonstrate selective reduction in T_S cells.

Another quite different MS treatment with immunologic implications is the use of hyperbaric oxygen (HBO). Treatment with HBO has been shown to suppress the development of EAE in rodents; evidence suggests that low pressures of pure oxygen can act as an immunosuppressant.[17] For several years, HBO has been promoted as an alternative treatment for MS but without scientific demonstration of its efficacy. A recent small but very well-controlled, double-blind study showed a beneficial effect of HBO in patients with clinically documented and stable MS deficits.[18] In general, clinical improvement was minimal and limited in duration to only about two weeks.

The usefulness of HBO in treating patients with more aggressive, active disease is undetermined, and a comparison with cytotoxic therapy is lacking. Practically speaking, it is questionable whether the limited benefits justify the cost of the procedure. It may be more important as an insight into the dynamics of MS immunopathogenesis.

Summary

In summary, the cause and the pathogenesis of MS are still undetermined, and treatment has been a controversial subject with only marginal success. The lack of a reliable laboratory marker for MS or its activity in a patient, as well as the variety and unpredictability of clinical courses enhance the difficulties in evaluating MS therapeutic efforts. There have been few well controlled clinical therapeutic trials. Currently, most would recommend treatment with ACTH or steroids for acute exacerbative MS.

Regarding the applications of intensive, aggressive immunologic manipulations described above, the long-term benefits and deleterious effects of these modalities remain undefined. In any case, the relative success that immunosuppression has demonstrated supports current regard for an important place for immune dysfunction in the pathogenesis of MS and offers renewed hope for the ultimate success of a more sophisticated understanding of MS pathogenesis and its therapeutic manipulation.

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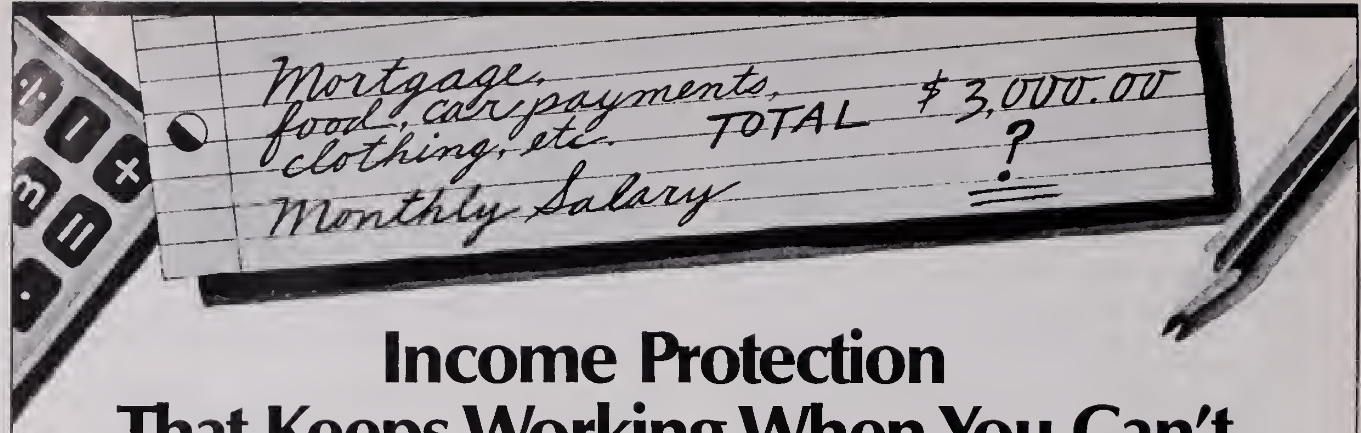
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President's Message

The explosion of health care delivery systems has confused patients, physicians and health care providers with many alphabetical abbreviations and overlapping financial contracts. The "Caveat Emptor" is as relevant to medical care as to used car contracts.

During the past few months, Missouri Medicine *has published an excellent four-part series excerpting "A Study of Missouri Health Organizations, Preferred Provider Organizations, Hospital Satellite Clinics and Freestanding Emergency Care Centers," which was compiled by the MSMA Commission on Medical Economics. Due to the importance of emerging alternate systems of medical care delivery to the practicing physician, I intend to devote the next several President's Pages to further explanation of some of these systems.*

The first article will deal with "Hospital-Sponsored Preferred Provider Organizations." The next article will characterize hospital-sponsored preferred provider organizations as a structure involving both hospital staffs and private hospitals. The third article will describe hospital-sponsored preferred provider organizations and their differences and relationship with physicians. These three structures are the most common, but, undoubtedly, there will be changes as they mature.

Dr. Richard Fallon's presentation of physicians multi-specialty group follows:

James M. Stokes, M.D.
St. Louis

Preferred Provider Organization

Of all of the alternatives to controlling medical care costs, one of the most commonly discussed is the Preferred Provider Organization. While not legally defined, PPOs comparisons consist of the following:

1. Providers under contract to deliver services under mutually agreed upon conditions.
2. Services are provided on a fee-for-service basis at a negotiated rate that usually involves a discount.
3. Utilization controls pre-admission certification and peer review of admissions, referrals and quality care.
4. Consumers free to use any licensed Provider though there are financial incentives such as no deduction and broader benefits if the "preferred" Provider is selected.

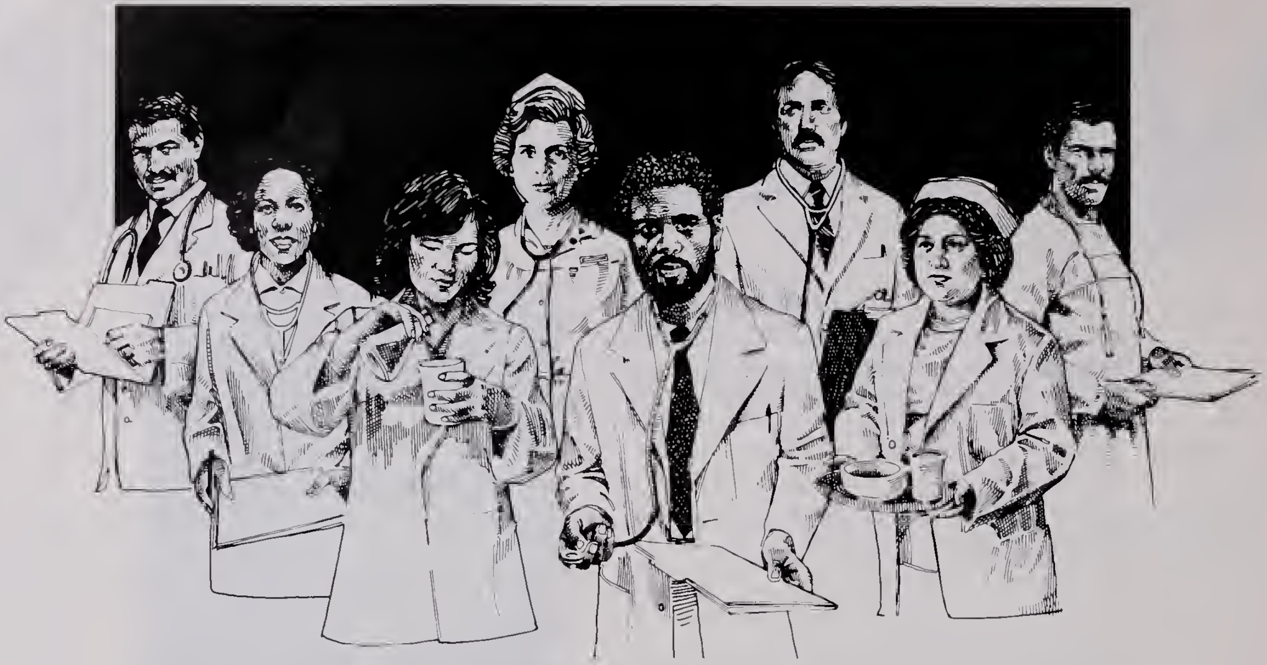
Hospitals are the frequent organizers of PPOs, using their existing medical staff as the chief providers. For the hospital, this is an attempt to capture a larger percentage of the patient population of an area. This is particularly important to hospitals with a low or decreasing occupancy rate. The majority of hospital-originated PPOs offer utilization review and peer review of their Providers, but not discounted charges. Medical staff membership in the hospital PPO, initially voluntary, is contingent on discounted fees.

For a physician, membership in a PPO can mean an increase in the number of patients or, at least, retention of those patients, who might otherwise join the PPO or other prepaid systems. The physician pays for this increase in patients with the discount he or she has given the PPO.

Long term, a physician with a larger patient load from a PPO will be locked into a system in which the annual negotiation of fees with the PPO becomes necessary for financial survival. Moreover, membership on a hospital staff may become dependent on remaining in a PPO or a requirement for joining a hospital's staff.

Hospital organized PPOs appear to be in alliance between the insurers and the largest expender of medical care dollars (hospitals) to control physician activity and physician charges. A more logical approach to controlling medical costs would be a reimbursement system that would shift care from the expensive hospital setting and better reward physicians for providing outpatient care.

Richard Fallon, M.D.
St. Louis



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The MSMA Auxiliary is placing special emphasis on **membership** *this month. I am pleased to introduce Mrs. Stephen Vilmer, First Vice-President and Membership Chairman, as guest columnist.*

We Need Your Spouse!!

Dear Physician:

Did those four words catch your attention? We hope so, because in this short article, an effort will be made to give you an understanding of what your spouse and more than 80,000 physicians' spouses in the nation can do for you!

As an auxiliary (or helping hand) to your medical association, our purpose is to assist you in promoting good health in your community, to raise money to help fund medical education and research, and to work toward more equitable and reasonable health-related legislation.

To accomplish our task as your "assistant," here are a few of our projects.

In promoting good health in your community, your spouse can participate in a health fair, help establish a Ronald McDonald House, set up an organ donor seminar, teach cardiopulmonary resuscitation classes to local citizens, participate in a child safety restraint program, or educate pregnant women about the fetal alcohol syndrome. These are but a few of the projects in which your spouse can become involved if she so desires. As a member of our MSMA Auxiliary, she will have access to the AMA Auxiliary Project Bank, an information clearinghouse for community projects. This resource contains many worthwhile service programs that can be successfully implemented in most communities.

As fund raisers for medical education and research, your auxiliary has shown a great deal of business acumen. Nationally, the AMA Auxiliary raised $1.8 million for 1983-1984. Wouldn't your spouse like to be involved in such a successful enterprise that benefits solely your chosen profession?

Last, but definitely not the least, is the auxiliary's involvement in health-related legislation. As a physician, you are faced with DRGs, PPOs and HMOs. It seems that every session of the legislative body in both the state and national arenas brings a new health-related issue to the surface.

If your spouse joins our MSMA Auxiliary, she will become a part of our unified force that is becoming more knowledgeable and involved in legislation. She will be able to work for less governmental control in medicine, participate in a "Day At The Legislature" (where she will meet the legislators responsible for any new governmental restrictions on medicine), and have immediate access to all pending legislation through the auxiliary's legislative program.

As you can see, we are a very active and viable group of physician-spouses. We are working hard to project a positive image of our physicians at a time when the future of medicine seems so uncertain. If your spouse will join our auxiliary, she can help make a difference when the auxiliary raises its voice in unison for its physician spouses.

Yes, Doctor, WE NEED YOUR SPOUSE. If you agree that we are an organization

(Continued on next page)

that speaks to the needs of the medical family, please share this letter with your spouse and ask her to clip and mail the membership request form printed below for her convenience.

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Preferred Provider Organizations

PART II—Legal Issues Presented by PPOs

PART I OF THIS ARTICLE, published in the September issue of MISSOURI MEDICINE, describes the various types of Preferred Provider Organizations (PPOs) that are being organized across the United States. A multitude of legal issues are raised in the organization and operation of PPOs. Among those issues are the following:

1. *Price Fixing*

Perhaps the most troublesome legal problem presented by PPOs, particularly provider-based PPOs, involves the issue of price fixing under the antitrust laws. The leading case in this area is *Arizona v. Maricopa County Medical Society*.

In Maricopa, two Arizona county medical societies, one of which comprised approximately 70% of the physician population in the county, established "foundations for medical care" that were organized to promote fee-for-service medicine and to provide a competitive alternative to existing health insurance plans. The foundations established a schedule of maximum fees that the physicians agreed to accept as payment in full for services performed for patients insured under the plan, engaged in utilization review by scrutinizing the necessity and appropriateness of treatment provided by their members, and drew checks on insurance company accounts to reimburse their physician-members.

The physicians were free to charge higher fees to uninsured patients and were also allowed to charge any patient less than the scheduled maximum. A patient insured by a foundation-endorsed plan was guaranteed complete coverage for the full amount of his medical bills, but only if he were treated by a foundation physician. The patient could utilize the services of a nonmember physician and be covered for charges that did not exceed the maximum fee schedule, but they would be required to pay any excess that the nonmember physician charged.

The state of Arizona challenged the foundations in federal court alleging that they were engaged in illegal price fixing conspiracies in violation of Section 1 of the Sherman Act. Arizona contended that the establishment of a maximum fee schedule constituted a restraint of trade within the meaning of the Sherman Act on the ground that the fee schedules limits the amount that member physicians could recover for their services and that the periodic upward revisions of the maximum fee schedules would have the effect of stabilizing and enhancing the level of actual physician charges.

Even though Section 1 of the Sherman Act prohibits "every" agreement which is "in restraint of trade," the courts have not embraced a literal interpretation of the word "every" and, instead, have developed two methods by which they review challenged restraints of trade. Under the "rule of reason" standard, the fact-finder considers all the facts and circumstances of the particular case to determine whether the restrictive practice imposes an unreasonable competitive restraint. This method requires a detailed evaluation and weighing of the purpose of the restraint, the anticompetitive effects of the restraint, and the allegedly beneficial procompetitive effects of the practices in question. However, because certain types of restraints have been found to be so inherently harmful to competition, they are considered under the harsher "per se rule." Once a per se type restraint is found to exist, the courts will not consider justifications for the restraint and will rely on a basically irrefutable presumption that the restraint is unreasonable and, therefore, unlawful. Horizontal agreements among competitors to control market prices either directly or indirectly have historically constituted

This article is the second of a two-part series in which the author presents an overview of Preferred Provider Organizations (PPOs).

Mr. Irmen is an attorney associated with the Shughart, Thomson & Kilroy law firm in Kansas City.

per se violations of the Sherman Act.

Applying the per se standard to the challenged practices in Maricopa, the United States Supreme Court condemned the maximum fee schedules as illegal under the Sherman Act as follows:

> "In this case, the rule [the per se rule] is violated by a price restraint that tends to provide the same economic rewards to all practitioners regardless of their skill, their experience, their training, or their willingness to employ innovative and difficult procedures in individual cases. Such a restraint also may discourage entry into the market and may deter experimentation and new developments by individual entrepreneurs. It may be a masquerade for an agreement to fix uniform prices, or it may in the future take on that character."

In spite of the Supreme Court's holding in Maricopa, the Court did appear to leave several openings for provider-based PPOs seeking to avoid violation of the Sherman Act. Fee reimbursement schedules that are determined by nonproviders, such as consumer groups, insurance companies or other separate entities who enter into bilateral contracts with individual physicians, may satisfy the antitrust laws provided that the fee-establishing entities are truly independent of physician control.

Another alternative is suggested in the Court's statement that the foundations in Maricopa were "not analogous to partnerships or other joint arrangements in which persons who would otherwise be competitors pool their capital and share the risks of loss as well as the opportunities for profit. In such ventures, the partnership is regarded as a single firm competing with other sellers in the market." Thus, physicians who join together in a single economic unit, or who partially integrate their PPO and non-PPO practices, may be able to establish maximum fees without running afoul of Maricopa.

Additional language of the court in Maricopa suggests other possibilities that can be considered by provider based PPOs. In describing the organization and operation of the foundations, the Court stated the following:

> "Each of the foundations is composed of individual practitioners who compete with one another for patients. Neither the foundations nor the doctors sell insurance, and they derive no profits from the sale of health insurance policies. The members of the foundation sell medical services. Their combination in the form of the foundation does not permit them to sell any different product."

Thus, to the extent that provider groups are deemed to be insuring risks (as in the case of HMOs and IPAs) or to the extent that providers can establish that their combination in the form of a PPO permits them to market a truly different product (a difficult prospect), the harsh rule of Maricopa can possibly be avoided.

The above discussion has focused on the antitrust/price fixing issues facing physician-based PPOs. Hospitals, insurance companies, employers and other payors will need to confront similar issues in connection with the special circumstances of the particular PPOs that they seek to implement or participate in.

2. *Group Boycotts or Concerted Refusals to Deal*

Physicians who are either denied initial membership in a PPO or who are subsequently dropped from the PPO for failure to comply with utilization review or other standards may claim that they have been illegally prevented from competing in the marketplace. Such charges will be similar to antitrust challenges that have been brought against hospitals and medical staffs for denying membership or specific clinical privileges. Cases dealing with these challenges generally apply the rule of reason standard.

As long as the expulsion or the denial of membership has a reasonable basis (i.e., ethical and professional standards, legitimate marketing objectives or operational efficiency), and is not based on an attempt to prevent a practitioner from competing in the marketplace, PPOs should be able to engage in the type of utilization review and adopt the kind of membership criteria that are necessary to the effective operation of the PPO.

3. *Due Process*

Great care must be taken regarding the procedural aspects of the process by which physicians may be excluded from provider panels. With respect to a physician's right to due process, public hospitals in Missouri are required to provide a fair procedure for physicians to contest the denial or curtailment of their medical staff membership or clinical privileges. Because such determinations affect the ability of the individual to earn his livelihood, procedures that afford adequate notice and a reasonable opportunity to present the physician's case must be in place. Denial of membership in a PPO provider panel may have a similar adverse effect on a physician's ability to earn his livelihood, and PPO admission and disciplinary procedures, therefore, should afford the requisite due process to all applicants.

4. *State Regulation*

At the present time, there are no statutes in Missouri or the great majority of other states that directly regulate PPOs. Whether state legislatures respond to the PPO movement by implementing enabling or other legislation remains to be seen. PPOs that do not assume any insurer function or carry out claims administration activities are not technically subject to the existing Missouri insurance laws. Payor-based PPOs established by insurance companies, of course, would be subject to regulation by the Division of Insurance, but beyond such payor-based PPOs, there exists a vast grey area in which the extent to which the state may presently regulate the organization and operation of PPOs is unclear.

Two types of state laws that may arguably be extended to PPOs at the present time are the so-called "freedom of choice" and "antidiscrimination" statutes found in many state insurance codes. These laws generally preclude insurers from negotiating only with selected practitioners (i.e., those shown to be most cost effective) and also bar insurers from limiting coverage to subscribers who only utilize the services of providers who charge discounted rates. The Missouri statute in this area provides that an "unfair method of competition" or "unfair and deceptive act or practice" includes the following:

> " . . . making or permitting any unfair discrimination between individuals of the same class and of essentially the same hazard in the amount of premium, policy fees, or rates charged for any policy or contract of accident or health insurance or in the benefits payable thereunder, or in any of the terms or conditions of such contract, or in any other manner whatever, including any unfair discrimination by not permitting the insured full freedom of choice in the selection of any duly licensed physician, surgeon, optometrist, chiropractor, dentist, pharmacist, pharmacy or podiatrist."

On its face value, this statute applies only to entities engaged in the business of insurance and to medical service plans and hospital service plans as defined in the Health Services Corporation Act. Provider-based PPOs would not appear to be subject to these provisions, therefore. Furthermore, the statute does not purport to mandate freedom of choice in the patient's selection of a *hospital*. Nonetheless, the determination of what kind of discrimination is "unfair" leaves considerable room for interpretation, and it can be said that this statute may have a chilling effect in Missouri on the establishment of payor-based PPOs that would arguably be inhibiting an insured's freedom of choice by establishing financial disincentives to choose physicians who are not on the preferred provider list.

As of this writing, Congress is considering legislation that would preempt state "freedom of choice" laws, such as Missouri's, which could effectively bar the development of payor-based PPOs. H. R. 2956, the Preferred Provider Health Care Act of 1983, has been introduced by Representative Ron Wyden (D-Ore.) to preempt any state law that would apply so as to preclude insurers from negotiating only with a limited group of cost effective practitioners or that would prohibit insurers from limiting coverage to those providers who charge discounted rates. This legislation has received the support of the Federal Trade Commission, and, if enacted, would clearly manifest a policy determination by the federal government that PPOs should be free to develop unimpeded by antidiscrimination and freedom of choice statutes. It should be noted, however, that the Wyden bill does not exempt PPOs from federal or state antitrust laws.

In dealing with the existing state of confusion regarding state regulation of PPOs, it is the current practice of the Missouri Division of Insurance to invite organizers of PPOs to submit a detailed description of their proposed PPO operation for review and comment by the Division. The Division may agree to face-to-face meetings to allow PPO proponents and the Division to discuss the extent to which the proposed PPO may be subject to current Missouri statutes.

5. *PPO Corporate Negligence*

It does not appear that the Missouri Supreme Court has ever ruled on the question of whether a patient injured by his private physician has an action for negligence against the hospital for breach of a duty of care to that patient in the hospital's selection of staff physicians. The issue of corporate negligence of hospitals will inevitably be decided in Missouri, and it is possible that corporate negligence may be extended to PPOs on the theory that in establishing the preferred provider panel, the PPO had a duty to each subscriber to exercise reasonable care in selecting and continuously evaluating the competency of the physicians chosen. Utilization review decisions may also submit the PPO and individual physicians to possible liability. A California trial court recently found that a patient who was injured as a consequence of premature discharge had a negligence cause of action against the state of California as a result of the determination by the state's utilization consultant that an additional hospital stay was unnecessary.

6. *Tax*

The Internal Revenue Service has ruled that an IPA is ineligible for tax exempt status under Section 501(c)(4) of the Internal Revenue Code for the reason that the primary purpose of this type of entity is to benefit participating physicians, and that social welfare benefits, if any, would be incidental to the IPA's primary aim of attracting patients. It is unlikely that a provider-based PPO will be able to obtain tax exempt status for the same reason. Such status may not be feasible or desirable in light of the structural and organizational approaches utilized by particular PPOs in an attempt to comply with the Maricopa decision.

In regard to hospital participation in a PPO, great care must be taken to insure that the hospital's tax exempt status will not be jeopardized. A hospital that contributes capital, dues, services and other support to a joint venture PPO with physician-providers could be subjecting itself to the claim that a portion of its net earnings is inuring to the benefit of private shareholders or individuals in violation of Section 501(c)(3) of the Internal Revenue Code. Any hospital participant in a PPO should seriously consider obtaining an advance ruling from the Internal Revenue Service to the effect that the hospital's tax exempt status will not be lost by virtue of its participation in the PPO.

Payor-based and entrepreneurial-based PPOs would not appear to have any grounds for obtaining tax exempt status.

7. *Confidentiality of Medical Records*

There is no statute or rule that would exempt the deliberations and records of PPO utilization review committees from discovery in malpractice or other proceedings. Any state legislation addressing PPOs should specify the extent to which protection from discovery of the records of utilization review committees will be afforded. The absence of some kind of exemption will likely have a chilling effect on what might otherwise be a candid review of medical practices unimpeded by concerns of future litigation.

8. *Defamation*

Utilization review will undoubtedly result in some determinations that particular procedures or services were not "medically necessary." Such determinations, if communicated to a third party, may provide a basis for a defamation action by the physician if the physician can prove legal malice. To minimize this risk, PPOs should consider obtaining the agreement of providers that they will not bring defamation suits as a result of the denial of reimbursement for their services. Alternatively, it could be agreed in advance by the PPO and participating providers what specific language and explanations will be given to subscribers who are notified that coverage has been denied.

9. *Fee Splitting*

The common law and various state statutes restrict the splitting of fees among professionals except in certain circumstances. In situations in which the PPO is to receive some form of compensation for a patient referral or hospital admission, the PPO should receive a flat fee tied to the specific economic circumstances of the PPO rather than a percentage of the total fee unrelated to the legitimate costs incurred by the PPO in doing business. Full disclosure of the PPO's retention of a portion of patient fees should be made to all patients and other payors.

10. *Corporate Practice of Medicine*

Corporations as such are prohibited under state laws from engaging in the practice of medicine. It has long been held in Missouri, however, that a corporation may *contract* with physicians to render professional medical services as employees of the corporation. Physicians may practice medicine in Missouri as employees of either a Chapter 351 general business corporation or a Chapter 356 professional corporation. In the PPO context, any activities that constitute the practice of medicine should be performed and controlled by physicians. Utilization review should not be carried out in such a manner that the hospital or the PPO corporation could be accused of practicing medicine.

11. *Securities Issues*

Practitioners should not overlook the fact that stock interests in for-profit PPO corporations, and possibly membership interests in not-for-profit PPOs, are probably securities subject to federal and state securities laws. Depending on the size and nature of the offerings, sales of PPO securities may be exempt from registration under these laws, but such exemption should never be presumed.

12. *Contracts*

In addition to complying with the substantive law in the various areas described above, PPO proponents will face the difficult task of reducing the various contractual arrangements and the intentions of the parties to understandable and concise legal documents. Accommodating the numerous individuals and entities involved in the establishment and operation of PPOs, as well as structuring the PPO in a manner that will comply with the variety of applicable laws, will require careful planning and precise drafting.

Conclusion

It is much too early to predict whether PPOs will become a significant force in the health care industry in the United States. The intense national interest in health care cost containment, however, together with the growing number of PPOs being organized nationwide, makes it clear that the factors and concerns giving rise to the PPO movement will remain for the foreseeable future. Regardless of whether PPOs survive or are replaced by other innovative structures, Missouri physicians should prepare themselves to deal with the variety of professional, financial and legal issues presented by this movement.

Our Readers Write

To The Editor:

A growing concern in Emergency Medicine is a syndrome that I have named "Mediaitis" or, perhaps, more commonly called "TV Syndrome." This malady has been found in all areas of the country. It distracts from the delivery of emergency medical care. In addition, it denigrates the majority of competent professional prehospital care providers. No hospital emergency department is immune from this malady. Virtually every emergency physician has experienced this syndrome at least once. Unfortunately, some physicians deal with this on a daily basis.

What then are the characteristics of this malady that is so pervasive. It is composed of a number of different fractions but the presenting symptoms are constant. Perhaps the hallmark of "Mediaitis" is a paramedic whose favorite television shows are "Emergency," "Chips," "Trauma Center" and "Adam-12." This person demonstrates a fondness for helicopters and feels the only emergency care available is provided at the large, university-affiliated Trauma Center.

The cardinal presenting signs of the medic affected with "Mediaitis" is a total disdain for the emergency physicians at any hospital outside of the Trauma Center. This person believes Prima Facie that only by helicopter transport and Trauma Center intervention can any one be saved.

Emergency medicine has come too far since its inception as a specialty to have to be delayed by "Mediaitis." The great majority of prehospital care providers realize that they are part of a team. The primary purpose of this group is to provide the best possible care for our patients.

Emergency departments are becoming staffed by increasingly qualified physicians. These doctors and the associated health care providers have made a commitment to emergency medicine. They realize that a well run emergency department is an asset to both the hospital and the community. The emergency department should be an integral part of the hospital Trauma service. We need not have "turf" battles over which hospital treats what. Every Trauma patient need not be met at the emergency room door by a surgeon.

The emergency department physician is capable of a wide variety of stabilization modalities. They are able to determine if a surgeon is required and of what specialty. Operative intervention without a good idea of the nature of injury does no one good.

From where I'm standing, emergency medicine is a multidisciplinary specialty. Paramedics, doctors, nurses and hospital all need to work together to assure quality health care delivery. The TV dramatics of "Mediaitis" are wonderful as entertainment; they have no place in the real world of emergency medicine.

James R. Criscione, Jr., M.D.
Kirkwood

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The AMA-Network brings a new dimension to the way you can sort through the explosion of medical information. This on-line computerized information system has a number of data bases to choose from including Drug, Disease, CPT-4 Codes, Clinical Literature, Category I CME, and Med/Mail, an electronic mail service.

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To learn more about the efficiency, reliability, and cost effectiveness of the system, contact the Missouri State Medical Association, Box 1028, Jefferson City, Missouri 65102, (314) 636-5151.

NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

Two of 17 University of Kansas City Faculty Fellowships were awarded to UMKC School of Medicine faculty members. *Stephen Hamburger*, M.D., professor and chairman, Department of Medicine, and *Reaner G. Shannon*, Ph.D., assistant professor, received this honor. The award carries a stipend of $5,000 to be used for professional development at the discretion of the recipient during the next year. Only faculty members who have made significant contributions to the university are considered for the award.

Eleven advanced-standing students, who enter as third-year students in the six-year program, recently began their course work at the School of Medicine. The eight men and three women were screened from an initial pool of 117 applicants. This pool was narrowed to 55 applicants who took the Quarterly Profile Examination and who were subsequently interviewed.

Twenty-four area minority or disadvantaged high-school students recently completed the fifth annual Summer Scholars Program. The four-week program, which seeks to provide participants with a realistic exposure to the health profession, also included sessions on learning, study and test-taking skills.

In conjunction with this program, seven advanced summer scholars, who had participated in the program last year, were allowed to return and spend a month giving in-depth attention to their individual areas of interest.

The School of Medicine's administration is preparing for its Liaison Committee on Medical Education's (LCME) site visit on November 13-16. The LCME's last site visit was in 1979 when it granted accreditation for five years. The LCME will examine many important aspects of the School, including its educational program, administrative structure, faculty, student affairs, clinical and physical facilities, research, and the graduate and continuing education programs.

Cynthia Nyquist-Battie, Ph.D., recently began her duties as assistant professor of anatomy at the School of Medicine. Dr. Nyquist-Battie most recently was assistant professor of biological sciences at Northern Illinois University in DeKalb. She received her Ph.D. from the University of California-Los Angeles and her B.S. from the University of California in Irvine. She is a member of the Society for Neuroscience, the American Association for the Advancement of Science, the New York Academy of Sciences, and the American Association of Anatomists.

Participants in the School of Medicine's annual student study tour recently returned from their September visit to the Federal Republic of Germany. The 14 students and seven faculty members visited cities including Stuttgart, Berlin, Hamburg and Munich, in addition to visiting university medical centers, community clinics and hospitals, and clinics managed by municipalities and by the federal government.

ST. LOUIS UNIVERSITY

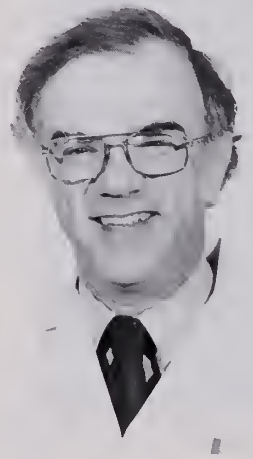
Lawrence W. Hirst, M.D., has been named chairman of the Department of Ophthalmology at the School of Medicine. He will also be the medical director of the Bethesda Eye Institute.

Dr. Hirst came to the School of Medicine in July, 1983 and was appointed acting chairman earlier this year. He came here first as an associate professor of opthalmology after spending two years as a postdoctoral fellow at The Johns Hopkins University's Wilmer Eye Institute. He is a graduate of the Queensland Medical School and the Royal Australian College of Ophthalmologists in Sydney, Australia. Dr. Hirst also holds a master's degree in public health from The Johns Hopkins University.

Lawrence W. Hirst, M.D.

Prior to his present appointment, Dr. Hirst was director of corneal services and a consultant in neuro-ophthalmology for the Department of Ophthalmology. His current plans include broadening faculty representation to cover all sub-specialties in ophthalmology.

St. Louis University School of Medicine, through an agreement with Bethesda General Hospital, established the Bethesda Eye Institute in 1981. Located at Bethesda General Hospital, the facility provides for the medical and surgical treatment of eye problems, serves as a teaching base for the Department of Ophthalmology, and undertakes research in a variety of opthalmological areas.



Raymond Slavin, M.D.

Raymond Slavin, M.D., director of allergy and immunology, has received a three-year $218,936 research grant to study the pathogenesis of allergic aspergillosis, a condition that sometimes affects children with cystic fibrosis. Dr. Slavin also is a professor of internal medicine and microbiology.

Allergic aspergillosis affects about 15% of children who have cystic fibrosis. Dr. Slavin will investigate why these children are susceptible to this complication of their disease and attempt to develop effective methods of detecting and treating the condition. The longer allergic bronchopulmonary aspergillosis in a child with cystic fibrosis goes undetected, the more severe the complications become.

Dr. Slavin was president of the American Academy of Allergy and Immunology in 1983 and remains a member of its executive committee.

UNIVERSITY OF MISSOURI-COLUMBIA

The Department of Child Health of the University of Missouri Health Sciences Center, with a grant from the Missouri Division of Health, is conducting an evaluation of the PKU/Hypothyroidism Screening Program.

One aspect of the evaluation is locating patients having phenylketonuria or hypothyroidism who were screened by the State Laboratory or a hospital laboratory as newborns but did not have a presumptive positive screening test for PKU or hypothyroidism.

To be considered for evaluation, the patients must meet the following criteria: For PKU patients, they must have been (1) born since April, 1965 and (2) tested by the state laboratory or a hospital laboratory. For hypothyroidism patients, they must have been (1) born since November, 1979 and (2) screened by T_4 and TSH at the State Laboratory or hospital laboratory.

Physicians or hospitals having knowledge of such patients should contact Calvin Woodruff, M.D. or John Latham, Project coordinator, Department of Child Health, University of Missouri Health Sciences Center, One Hospital Drive, Columbia, MO 65212, (314) 882-3996.

If referred to the program prior to March 1, 1985, funds are available to confirm the diagnosis and to measure psychological development at one of the cooperating region clinics.

WASHINGTON UNIVERSITY

Daniel L. Hartl, Ph.D., has been named James S. McDonnell Professor and head of the Department of Genetics at Washington University School of Medicine.

Dr. Hartl replaces *Donald Schreffler*, Ph.D., who has asked to be relieved of his administrative duties in order to concentrate on his research and writing.

The McDonnell Professorship in genetics was established in 1975 through gifts from James S. McDonnell and the McDonnell Foundation. McDonnell, who had a lifelong interest in genetics, also provided funds to establish the Department of Genetics at Washington University.

Dr. Hartl joined the medical school's faculty in 1981 as a professor of genetics. His research concentrates on how genes can transfer from one species to another and how much change occurs with these genes when a new species is formed.

He came to Washington University from Purdue University in West Lafayette, Ind., where he served as associate professor and professor of biological sciences. During his seven years at Purdue, he spent a year as a visiting professor at the University of Zurich in Switzerland. He has been a faculty member at the University of Minnesota in Minneapolis.

The Department of Ophthalmology has named the first recipients of the Storz Fellowships in Ophthalmology.

The Storz Fellows are *Bruce H. Cohen*, M.D. and *Kenneth Michael Karlin*, M.D. The appointments were announced by *Bernard Becker*, M.D., professor and head of the Department of

Ophthalmology at the School of Medicine, and a staff physician at Barnes, Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

The fellowships, established through an $880,000 endowment to the School of Medicine and Barnes Hospital from the late Charles R. Storz Jr., will be used to fund students seeking advanced training in ophthalmology. Storz, the former head of Storz Instrument Co., died in 1979.

Dr. Cohen has been named the Charles R. Storz Sr. Glaucoma/Retinal Fellow in Ophthalmology. He received the doctor of medicine degree in 1980 from Johns Hopkins Medical School and interned at St. Johns Mercy Medical Center in St. Louis. He recently completed a residency in ophthalmology at the Washington University Medical Center. As a Storz Fellow, Cohen will receive training on the glaucoma service as well as in retinal surgery. His career interest is in diseases and surgery of the retina and vitreous.

Dr. Karlin has been named the Kathryn G. Storz Glaucoma Fellow in Ophthalmology. He received the doctor of medicine degree in 1980 from Louisiana State University School of Medicine and interned at the Ochsner Foundation Hospital and Clinic in New Orleans, where he recently completed a residency in ophthalmology. As a Storz Fellow, Dr. Karlin hopes to combine clinical and surgical patient care with clinical research by using pharmaceutical agents, laser and surgical techniques.

Carlos Buznego of Miami, a second-year medical student at the School of Medicine, is one of 26 recipients of a Medical Perspectives Fellowship from the National Fund for Medical Education (NFME).

The fellowship program, now in its seventh year, is supported by a grant from SmithKline Beckman Corporation. The NFME was chartered by Congress in 1954 to mobilize voluntary support for medical education and, since then, has awarded more than $57 million to educational institutions and organizations.

Applicants for the fellowships are sponsored by a faculty member from their institution and must submit proposals detailing plans and costs for research projects they would like to be funded. Mr. Buznego's sponsor is *Peter G. Tuteur*, M.D., associate professor of medicine at the School of Medcicine and a staff physician at Barnes Hospital, a sponsoring institution of the Washington University Medical Center.

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* The Missouri State Medical Foundation is classified by the Internal Revenue Service under 509(a)(3). Individuals may deduct up to 50% of their adjusted gross income for contributions made to the MSMF.

MSMA Members Receive Physician's Recognition Award

Thirty-three MSMA members qualified for the MSMA-AMA Physician's Recognition Award in July, 1984.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Larry E. Benson, North Kansas City
Melvin K. Burton, Florissant
Mahmood H. Choudhury, Houston
Thomas T. Crouch, Kansas City
William L. Drake, St. Louis
Walter G. Dukstein, Kansas City
Allan R. Fleming, Kansas City
Jorge A. Fortin, Rolla
Thomas M. Foy, Crystal City
John A. Gantz, St. Louis
Moheb A. S. Hallaba, Joplin
Hanmer Hannah, Kansas City
Mark J. Hoffman, St. Louis
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Nalini A. Reddy, Joplin
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Vidya Sharma, Kansas City
Sara Y. Shull, Independence
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Before prescribing, see complete prescribing information in SK&F CO. literature or *PDR*. The following is a brief summary.

*WARNING

This drug is not indicated for initial therapy of edema or hypertension. Edema or hypertension requires therapy titrated to the individual. If this combination represents the dosage so determined, its use may be more convenient in patient management. Treatment of hypertension and edema is not static, but must be reevaluated as conditions in each patient warrant.

Contraindications: Concomitant use with other potassium-sparing agents such as spironolactone or amiloride. Further use in anuria, progressive renal or hepatic dysfunction, hyperkalemia. Pre-existing elevated serum potassium. Hypersensitivity to either component or other sulfonamide-derived drugs.

Warnings: Do not use potassium supplements, dietary or otherwise, unless hypokalemia develops or dietary intake of potassium is markedly impaired. If supplementary potassium is needed, potassium tablets should not be used. Hyperkalemia can occur, and has been associated with cardiac irregularities. It is more likely in the severely ill, with urine volume less than one liter/day, the elderly and diabetics with suspected or confirmed renal insufficiency. Periodically, serum K^+ levels should be determined. If hyperkalemia develops, substitute a thiazide alone, restrict K^+ intake. **Associated widened QRS complex or arrhythmia requires prompt additional therapy.** Thiazides cross the placental barrier and appear in cord blood. Use in pregnancy requires weighing anticipated benefits against possible hazards, including fetal or neonatal jaundice, thrombocytopenia, other adverse reactions seen in adults. Thiazides appear and triamterene may appear in breast milk. If their use is essential, the patient should stop nursing. Adequate information on use in children is not available. Sensitivity reactions may occur in patients with or without a history of allergy or bronchial asthma. Possible exacerbation or activation of systemic lupus erythematosus has been reported with thiazide diuretics.

Precautions: Do periodic serum electrolyte determinations (particularly important in patients vomiting excessively or receiving parenteral fluids, and during concurrent use with amphotericin B or corticosteroids or corticotropin [ACTH]). Periodic BUN and serum creatinine determinations should be made, especially in the elderly, diabetics or those with suspected or confirmed renal insufficiency. Cumulative effects of the drug may develop in patients with impaired renal function. Thiazides should be used with caution in patients with impaired hepatic function. They can precipitate coma in patients with severe liver disease. Observe regularly for possible blood dyscrasias, liver damage, other idiosyncratic reactions. Blood dyscrasias have been reported in patients receiving triamterene, and leukopenia, thrombocytopenia, agranulocytosis, and aplastic and hemolytic anemia have been reported with thiazides. Thiazides may cause manifestation of latent diabetes mellitus. The effects of oral anticoagulants may be decreased when used concurrently with hydrochlorothiazide; dosage adjustments may be necessary. Clinically insignificant reductions in arterial responsiveness to norepinephrine have been reported. Thiazides have also been shown to increase the paralyzing effect of nondepolarizing muscle relaxants such as tubocurarine. Triamterene is a weak folic acid antagonist. Do periodic blood studies in cirrhotics with splenomegaly. Antihypertensive effects may be enhanced in post-sympathectomy patients. Use cautiously in surgical patients. Triamterene has been found in renal stones in association with the other usual calculus components. Therefore, 'Dyazide' should be used with caution in patients with histories of stone formation. A few occurrences of acute renal failure have been reported in patients on 'Dyazide' when treated with indomethacin. Therefore, caution is advised in administering nonsteroidal anti-inflammatory agents with 'Dyazide'. The following may occur: transient elevated BUN or creatinine or both, hyperglycemia and glycosuria (diabetic insulin requirements may be altered), hyperuricemia and gout, digitalis intoxication (in hypokalemia), decreasing alkali reserve with possible metabolic acidosis. 'Dyazide' interferes with fluorescent measurement of quinidine. Hypokalemia is uncommon with 'Dyazide', but should it develop, corrective measures should be taken such as potassium supplementation or increased dietary intake of potassium-rich foods. Corrective measures should be instituted cautiously and serum potassium levels determined. Discontinue corrective measures and 'Dyazide' should laboratory values reveal elevated serum potassium. Chloride deficit may occur as well as dilutional hyponatremia. Concurrent use with chlorpropamide may increase the risk of severe hyponatremia. Serum PBI levels may decrease without signs of thyroid disturbance. Calcium excretion is decreased by thiazides. 'Dyazide' should be withdrawn before conducting tests for parathyroid function.

Thiazides may add to or potentiate the action of other antihypertensive drugs.

Diuretics reduce renal clearance of lithium and increase the risk of lithium toxicity.

Adverse Reactions: Muscle cramps, weakness, dizziness, headache, dry mouth; anaphylaxis, rash, urticaria, photosensitivity, purpura, other dermatological conditions; nausea and vomiting, diarrhea, constipation, other gastrointestinal disturbances; postural hypotension (may be aggravated by alcohol, barbiturates, or narcotics). Necrotizing vasculitis, paresthesias, icterus, pancreatitis, xanthopsia and respiratory distress including pneumonitis and pulmonary edema, transient blurred vision, sialadenitis, and vertigo have occurred with thiazides alone. Triamterene has been found in renal stones in association with other usual calculus components. Rare incidents of acute interstitial nephritis have been reported. Impotence has been reported in a few patients on 'Dyazide', although a causal relationship has not been established.

Supplied: 'Dyazide' is supplied in bottles of 1000 capsules; Single Unit Packages (unit-dose) of 100 (intended for institutional use only); in Patient-Pak™ unit-of-use bottles of 100.

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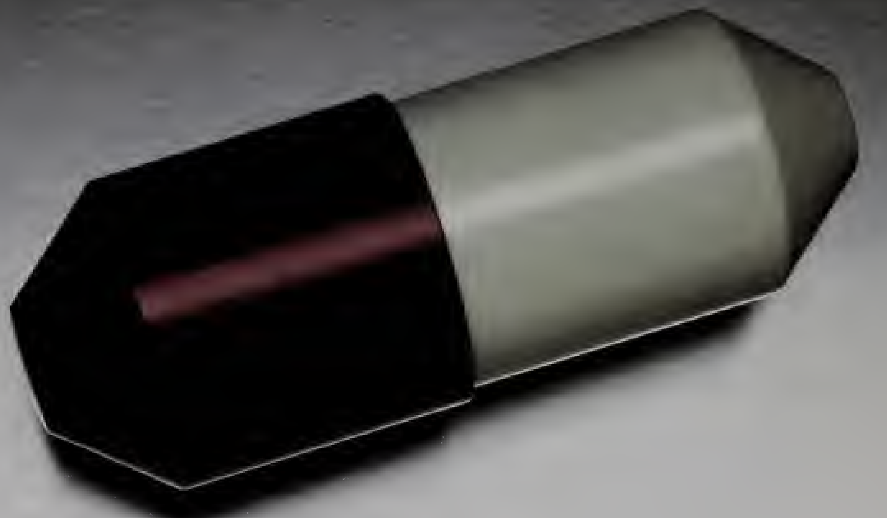

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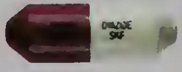

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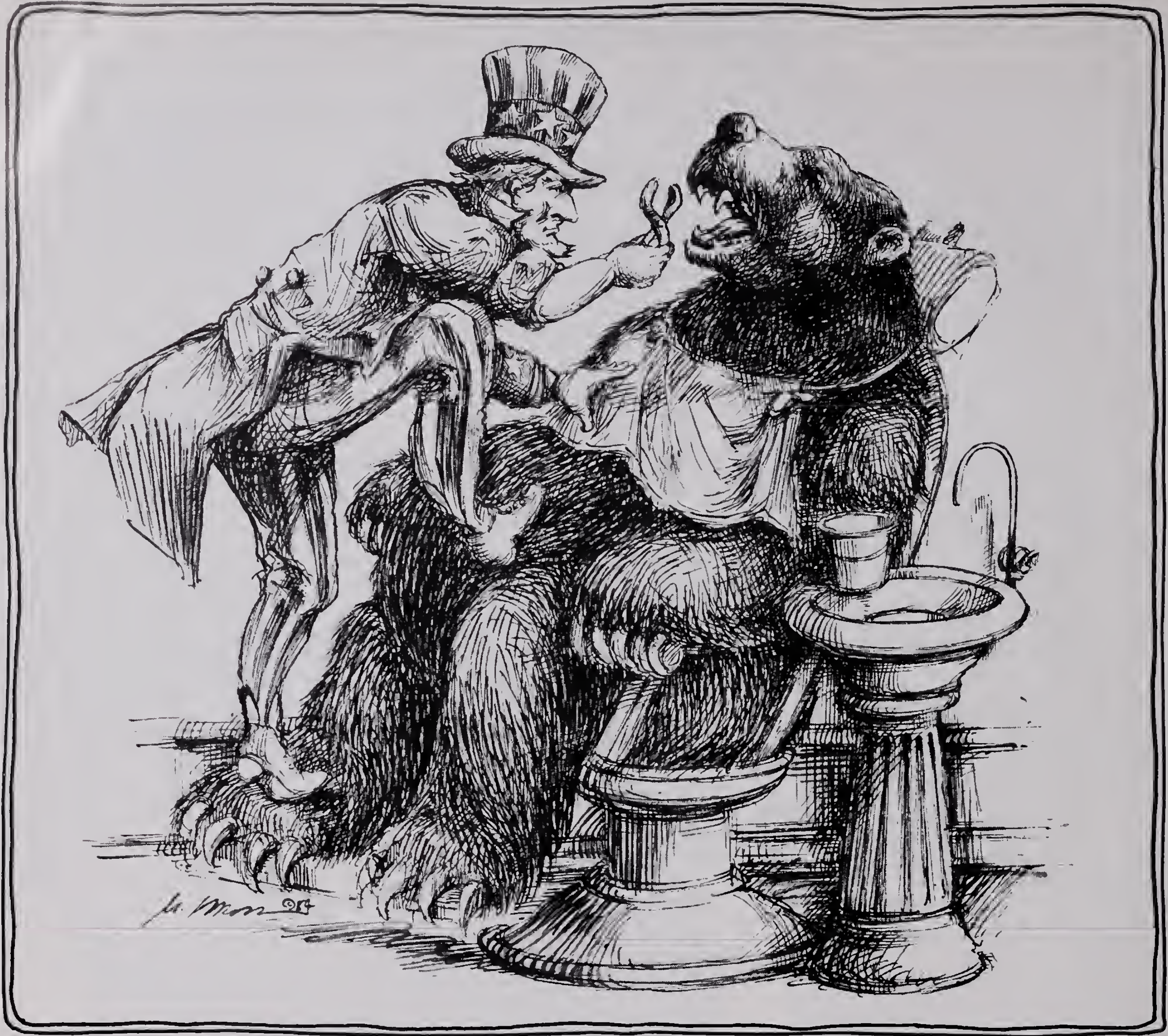

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Co-sponsors: Women's Cancer Control Program, American Cancer Society and Ellis Fischel State Cancer Center

Symposium Schedule Includes:

"The Rationale for Colorectal Screening," **William Kraybill**, M.D., Acting Director, Surgery Services EFSCC

"The Early Diagnosis and Screening of Colorectal Cancer," **John Bond**, M.D., professor of Medicine, University of Minnesota and Chief, Gastroenterology Section, VA Medical Center, Minneapolis

"The Evaluation of a Patient With a Positive Hemoccult," **David Winchester**, M.D., Assistant Professor of Surgery, Northwestern University, Evanston, and Chairman, Surgical Oncology, Evanston Hospital

"Patient Education and Compliance in Colorectal Screening," **Marilyn Stromberg**, R.N., Ed.D., Oncology Coordinator, Northern Illinois University, DeKalb

Continuing Education Certificates: 5, CME; 4.5, AAFP; 3, CEU.

For Further Information —

Contact: Janice Gentile, Director, Program Development, Ellis Fischel State Cancer Center, 115 Business Loop 70 West, Columbia, MO 65203. (314) 875-2100, Ext. 398

A WORD TO THE WHYS

WHY AMA? While the AMA endorses competition in health care delivery that eliminates excess cost without compromising quality, the AMA actively opposes any legislative initiatives that would reduce quality of medical services. AMA leadership in making high quality, cost effective health care available to the American public: it's one more good reason why you should be a part of the AMA.

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NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
***Contact:* Alta Bingham**

Nov. 8-10	Fall Clinical Conference — Kansas City Southwest Clinical Society (Alameda Plaza Hotel)
Dec. 6-8	The Heart 1984 (Alameda Plaza Hotel)

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
***Contact:* Loretta Giacoletto, Office of CME**

Oct. 15-17	Advances in Scar Revision and Camouflage
Oct. 15-19	Diagnostic Interview Schedule Training
Oct. 25-26	12th Annual Diabetes Symposium (Clarion Hotel)
Oct. 25-27	Latest Concepts in Selected Areas of Medicine
Nov. 7	New Perspectives in Cancer Treatment
Nov. 7-9	Modern Dissection Techniques (Chase Park Plaza)
Nov. 11-13	Modern Dissection Techniques (Chase Park Plaza)
Nov. 14-16	Modern Dissection Techniques (Chase Park Plaza)
Nov. 8-10	Clinical Allergy for Physicians
Nov. 9	Oncology Update (St. Luke's West)
Nov. 9-11	Geriatric Anesthesia (Marriott's Pavilion Hotel)
Nov. 15	Infectious Diseases (Marriott's Pavilion Hotel)
Dec. 7-8	Low Back and Sciatic Pain
(1985)	
Jan. 6-11	Practical Management of Infectious Diseases (Keystone, Colorado)
Jan. 10-16	Endocrine Aspects of Ovarian Dysfunction Syndromes (Puerto Vallarta, Mexico)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 362-7100
***Contact:* Ronald G. Evens, M.D., Director**

Nov. 12	City-Wide Radiology Conference on "Recent Advances of MRI in Neuroradiology"
(1985)	
Jan. 14	City-Wide Radiology Conference (St. Louis University)
Feb. 11	City-Wide Radiology Conference on "Digital Radiography"
Mar. 11	City-Wide Radiology Conference on "Interventional Radiology"
Apr. 8	Leroy Sante Lecture (St. Louis University)
May 13	City-Wide Radiology Conference "MRI"

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
***Contact:* Richard C. Barry, M.D.**

June 13-15	Symposium: Identification and Practical Approach to Evaluation and Management of Pediatric Emergencies (Tan-Tar-A Resort, Lake of the Ozarks)

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
***Contact:* Joy W. Barnett, CME Coordinator**

Oct. 10-13	Advanced Cardiac Life Support Course
Oct. 20	Premenstrual Syndrome

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
***Contact:* Anita Herbst, Continuing Medical Education**

Oct. 12-13	Treatment of Headaches and Neck Pain (West Port Plaza, St. Louis)
Oct. 17-19	Fifth Annual Ultrasound Symposium: Special Imaging (Park Terrace Airport Hilton, St. Louis)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
***Contact:* Jan Johnston, Promoter Coordinator**

Oct. 18-19	Advanced Trauma Life Support
Oct. 18-19	39th Annual Internal Medicine Symposium
Oct. 23-24	Medicine and Religion: The Family
Nov. 2	Annual Diabetes Symposium
Nov. 2	Leukemia Society Annual Symposium (Alameda Plaza Hotel, Kansas City)
Nov. 29-30	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Dec. 13-14	Advanced Trauma Life Support
(1985)	
Jan. 20-26	Contemporary Issues in Obsterics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Feb. 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
***Contact:* Weldon D. Webb, M.D., Director**

Oct. 19-21	Modern Management of Diabetes Mellitus (Osage Beach)
Oct. 22-23	Annual Meeting Missouri Perinatal Association (Jefferson City)
Oct. 26-27	27th Annual Physician's Weekend
Nov. 3-4	Swallowing Disorders (St. Louis)
Nov. 3-4	Preventive Cardiology in Primary Care (Osage Beach)
Nov. 12-16	Review for Certification Examination in Infection Control
Nov. 16-18	Missouri Ear, Nose and Throat Society Meeting
(1985)	
Feb. 6-8	Fifth National Conference on CAPD (Kansas City)
Mar. 1	Preceptor's Day
Mar. 2-3	Eighth Annual Family Practice Update Session

Important Dates!

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Introducing Our New MSMA Members

Gary L. Blount, M.D., University of Missouri, Dept. of Psychiatry, Columbia 65212, has become a member of Boone County Medical Society. Dr. Blount is a native of Santa Monica, Calif., received his preliminary education at LaSierra College and his M.D. degree at American University of Caribbean in 1983. He specializes in psychiatry.

Maria Brazil, M.D., 2744 Russell, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Brazil is a native of St. Louis, received her preliminary education at St. Louis University and her M.D. degree at St. Louis University in 1983. She specializes in general surgery.

Fred T. Creech, M.D., 201 E. Monroe, Mexico 65265, has become a member of Audrain County Medical Society. Dr. Creech is a native of Evansville, Ind., received his preliminary education at Wabash College and his M.D. degree at Indiana University in 1980. He specializes in dermatology.

Gordon L. Haycraft, M.D., 14 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau Area County Medical Society. Dr. Haycraft is a native of Denver, Colo., received his preliminary education at the University of Colorado and his M.D. degree at the University of Colorado in 1974. He specializes in cardiology.

Ramiro Icaza, M.D., Highway D, Jackson 63755, has become a member of Cape Girardeau Area County Medical Society. Dr. Icaza is a native of Leon, Nicaragua, received his preliminary education at Arkansas State University and his M.D. degree at Autonoma University Guadalajara in 1978. He specializes in family practice.

Keith S. Krummenacher, M.D., One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Krummenacher is a native of St. Louis, received his preliminary education at Yale University and his M.D. degree at the University of Missouri-Columbia in 1983. He specializes in anesthesiology.

Gregory A. Love, M.D., One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Love is a native of Springfield, received his preliminary education at Loyola University and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in anesthesiology.

Edwin L. Lytle, M.D., 6150 Oakland, St. Louis 63139, has become a member of St. Louis Metropolitan Medical Society. Dr. Lytle is a native of Seattle, Wash., received his preliminary education at Gonzaga University and his M.D. degree at St. Louis University in 1953. He specializes in physical medicine and rehabilitation.

Stephen E. Mainini, M.D., 1415 Barger Pl., Richmond Heights 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Mainini is a native of St. Louis, received his preliminary education at Southwest Missouri State University and his M.D. degree at the American University of Caribbean in 1983. He specializes in internal medicine.

Katherine A. Maxson, M.D., 224 S. Woods Mill Rd., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Maxson is a native of Los Angeles, Calif., received her preliminary education at Occidental College and her M.D. degree at St. Louis University. She specializes in obstetrics and gynecology.

Carl V. Migliazzo, M.D., Truman Medical Center, 2301 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Migliazzo is a native of Kansas City, received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Columbia in 1979. He specializes in ophthalmology.

Burney A. Miller, M.D., P.O. Box 128, Lutesville 63762, has become a member of Mineral Area Medical Society. Dr. Miller is a native of Springfield, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1981. He specializes in family practice.

Thomas A. Pressly, M.D., One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Pressly is a native of San Antonio, Tex., received his preliminary education at the University of Texas and his M.D. degree at the University of Texas in 1983. He specializes in internal medicine.

Roland Sabates, M.D., 6700 Troost Ave., Suite 110, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Sabates is a native of Camaguey, Cuba, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1976. He specializes in ophthalmology.

James E. Schneider, M.D., University of Missouri Hospital and Clinics, Columbia 65212, has become a member of Boone County Medical Society. Dr. Schneider is a native of Milwaukee, Wis., received his preliminary education at the University of Wisconsin and his M.D. degree at the University of Wisconsin in 1978. He specializes in internal medicine.

Nancy A. Solomon, M.D., Mid-Missouri Mental Health Center, Room 237, 3 Hospital Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Solomon is a native of Davenport, Iowa, received her preliminary education at the University of Oklahoma and her M.D. degree at the University of Texas in 1974. She specializes in psychiatry.

Samir Sotouhi, M.D., 60 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau Area County Medical Society. Dr. Sotouhi is a native of Cairo, Egypt, received his preliminary education at Cairo University and his M.D. degree at Cairo University in 1972. He specializes in neurology.

Glen L. Sublette, M.D., 6724 Troost, Suite 400, Kansas City 64131, has become a member of Jackson County Medical Society. Dr. Sublette is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1972. He specializes in neurology.

Kenneth G. Weston, M.D., 1502 E. Broadway, Columbia 65201, has become a member of Boone County Medical Society. Dr. Weston is a native of St. Louis, received his preliminary education at Southwest Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1981. He specializes in family practice.

Brock P. Whittenberger, M.D., 14 Doctors' Park, Cape Girardeau 63701, has become a member of Cape Girardeau County Area Medical Society. Dr. Whittenberger is a native of Grand Rapids, Iowa, received his preliminary education at Amherst College and his M.D. degree at Washington University in 1979. He specializes in hematology and oncology.

Richard R. W. Winters, M.D., Dept. of Plastic Surgery, University of Missouri Health Sciences Center, Columbia 65212, has become a member of Boone County Medical Society. Dr. Winters is a native of Charlotte, N.C., received his preliminary education at Northwestern University and his M.D. degree at St. Louis University in 1970. He specializes in plastic surgery.

New Student Members

St. Louis University

Linmarie Sikich

University of Missouri-Columbia

Frank R. Burns
Daniel J. Gilden
Steven E. Newbold
Barbara A. Page
Sandra R. Stell
Ronald M. Stewart

University of Missouri-Kansas City

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STAFF PSYCHIATRISTS — Needed for inpatient units in rural community within one hour drive of St. Louis. Excellent school system and community in which to raise children. Qualifications: Board certified or eligible; current Missouri license or eligibility to obtain MO license. Currently have 350-bed hospital, with approved funding for new 170-bed inpatient hospital, 90-bed forensic facility, and 200-bed mental health program in corrections. Salary: $59,410, plus $8-10,000/year for on-call (3-4 days/month); board certification differential; malpractice, health insurance; tax deferred comp.; retirement benefits; life insurance; 3 weeks vacation; 3 weeks sick leave; 10 days CME. Reimbursement for interview/moving expenses upon employment. Call or write Gary L. Bassett, M.D., Chief of Medical Staff, Farmington State Hospital, Farmington, MO 63640. (314) 756-6792 ext. 347.

FAMILY PHYSICIAN-GREATER KANSAS CITY AREA — Board certified FP needed now for group practice, 15 minutes from downtown Kansas City. Practice affiliated with medical school and teaching opportunities available. Obstetrics optional. Benefits excellent, Salary negotiable. Please respond with CV to Edwin L. Clounts, M.D., Parkville Medical Group, 8600 N.W. 64th, Parkville, MO 64152. (816) 587-0440.

FAMILY PHYSICIAN — Full-time opening in St. Louis County for Board Certified physician interested in family practice and occupational/industrial medicine. An interesting, challenging practice with sufficient time for family and education. Excellent salary first year and then partnership. Send resume to CA-File 474, Missouri State Medical Association, P.O. Box 1028, Jefferson City, MO 65102.

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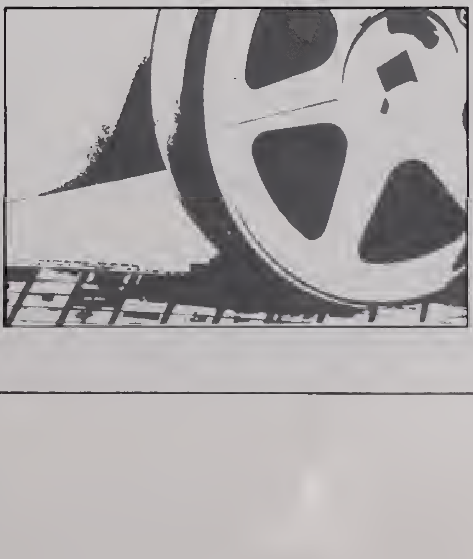

in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

A TWO-YEAR CHARTER for an ad hoc committee on young physicians was approved by the AMA Board of Trustees. The committee will review opportunities that exist for young physicians to become actively involved in organized medicine. It also will make recommendations for further developing the Association's responsiveness to young physicians' needs.

THE AMA'S DRG Monitoring Project is collecting the observations of individual physicians about the impact of the new prospective pricing system in their hospitals. The AMA will use the information in pursuing modifications to the PPS and for developing programs to assist physicians in dealing with it. Physicians are requested to send their written comments to the DRG Monitoring Project, AMA Dept. of Health Care Resources, P.O. Box 10947, Chicago, Ill. 60610.

A 24-PAGE BOOKLET, "What Your Patients Should Know . . . About DRGs and the Prospective Payment System," is available from the AMA. The booklet is designed to assist physicians in answering patient inquiries. It also may be read and understood easily by the patients themselves. It describes how and why Congress developed prospective pricing and provides an overview of how the system is intended to work in hospitals. Copies are available for $1 each for up to 99 copies, 75¢ each for 100-500 copies, and 60¢ each in larger quantities. Write to AMA Order Dept. OP-336, P.O. Box 10946, Chicago, Ill. 60610.

THE NEWLY ESTABLISHED AMA Ad Hoc Committee on FMGs is studying the problems and special concerns of foreign medical graduates, including U.S. citizens who studied in foreign medical schools. The 16-member committee is chaired by Pedro A. Poma, M.D., Melrose Park, Ill., and includes representatives from the Council on Medical Education and the Council on Medical Service.

A NEW COMPUTERIZED telecommunications service featuring the *Journal of the AMA* and the nine AMA specialty journals is scheduled to go on line in November. The service will be offered by Mead Data Central, a division of Mead Corp. Subscribers will be able to use their computers to search and retrieve material from the entire text of current issues. The full text of *JAMA* will be available on its publication date.

DEFENSIVE MEDICINE may increase the nation's medical bill by as much as $15.1 billion, according to the AMA Committee on Professional Liability. James E. Davis, M.D., speaker of the AMA House of Delegates, told a congressional hearing that the issue of professional liability and costs related to such cases has become more controversial and serious than at any time since the crisis of the mid-1970s. Premiums for medical professional liability coverage have been increasing at double-digit rates in recent years, he said. Dr. Davis said the AMA does not support the medical liability legislation that has been introduced in Congress, but "we believe that the bills do provide an important focus for national discussion of the issue."

HOSPITALS are in transition, according to a new AMA publication, *The American Health Care System 1984*. Investor-owned, for-profit, short-stay general hospitals increased from 730 to 748 between 1980-1982, while the total number of hospitals in the U.S. declined by 50. The historical trend of increased utilization of community hospitals appears to have slowed, except in the area of outpatient visits. The 83-page booklet may be purchased for $9.95 plus shipping and handling from the AMA Order Dept. OP-259, P.O. Box 10946, Chicago, Ill. 60610.

AMA PUBLIC RELATIONS seminars have been scheduled for October 1-2 in Asheville, N.C., and October 22-23 in Portland, Ore. The meetings will provide a forum for sharing ideas with public relations professionals in state, county and specialty societies, executive directors, and physician PR committee members. For more information, contact Director of Consulting Services, AMA Division of Communications, AMA Headquarters. The telephone number is (312) 645-4419.

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Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite; **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation, see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma, **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit, **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations, **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting; anaphylaxis; bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria; **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions; **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under "*Probable Causal Relationship (PCR)*" if there has been one positive rechallenge or if three or more cases occur which might be causally related Reactions are classified under "*Causal Relationship Unknown*" if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

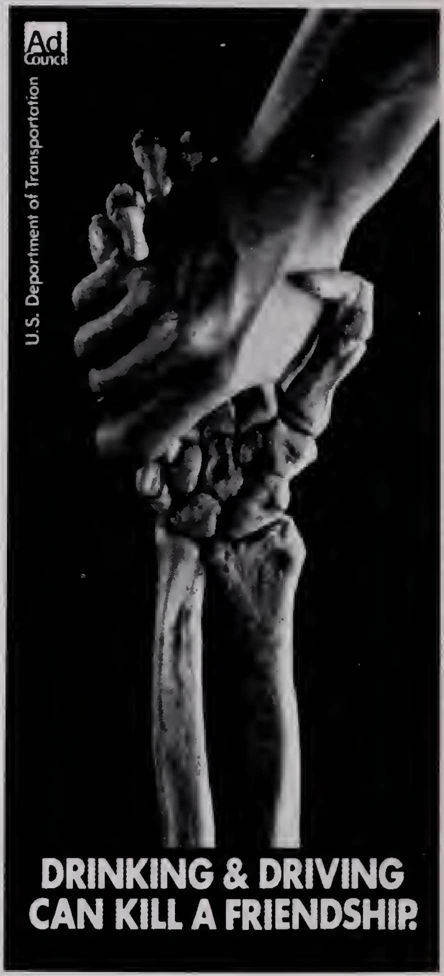
Dosage and Administration: Rheumatoid arthritis and osteoarthritis. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Do not exceed 2400 mg per day Mild to moderate pain: 400 mg every 4 to 6 hours as necessary

Caution: Federal law prohibits dispensing without prescription. MED B-7-S

Motrin is a registered trademark of The Upjohn Manufacturing Company

Upjohn The Upjohn Company
Kalamazoo, Michigan 49001

J-4791 August, 1984



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- Undiminished efficacy for at least 28 consecutive nights[2-4]
- Patients usually awake rested and refreshed[7-9]
- Avoids causing early awakenings or rebound insomnia after discontinuation of therapy[2,5,10-12]

Caution patients about driving, operating hazardous machinery or drinking alcohol during therapy. Limit dose to 15 mg in elderly or debilitated patients. Contraindicated during pregnancy.

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References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res* 9(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

DALMANE® Ⓒ
flurazepam HCl/Roche

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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See preceding page for references and summary of product information.

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STACKS

Missouri Medicine

Vol. 81, No. 11 (ISSN 0026-6620) November, 1984

M. D. S.

Balloons and Acupuncture

Antiasthmatic Drugs

University of Missouri-Kansas City

SPECIAL ISSUE

The XY Woman

Update in Treatment of Peptic Ulcer Disease

MISSOURI STATE MEDICAL ASSOCIATION

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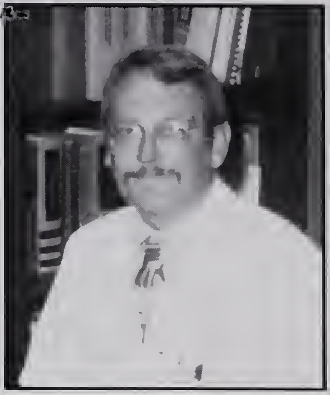

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PROGRESS NOTES

missouri state medical association

November 1984

Scam of the Month

Altered scrips are easy drug source

This is the third in the "Scam of the Month" series produced by the Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs. It is titled "The Altered Scrip Scam."

MSMA members are invited to share their experiences with "professional patients." Write to the MSMA Communications Department, P.O. Box 1028, Jefferson City, MO 65102.

Prescribers who short-cut proper prescription-writing practice are easy marks for professional patients.

When the dose amounts are written in Arabic numerals, without the reinforcement of a spelled-out number, it becomes an easy task to match the ink and alter the figures. A prescription for 10 becomes a prescription for 40; a 5 becomes 25.

The prudent prescription thus becomes excessive, and also more profitable for the professional patient.

REMEMBER: Always follow good prescription-writing practice. Use ink or indelible pencil. *Write out* the actual amount of medication prescribed, in addition to the Arabic or Roman numerals. And *never* leave prescription pads unattended.

Report shows

Professional expenses rise faster than 1983 inflation

Average total professional expenses of self-employed physicians increased by 9.6% from $78,400 in 1982 to $84,900 in 1983. The rate of increase exceeded that of inflation for the same period by 5.8%. The figure above indicates that major factors contributing to the increase in total expenses were professional liability insurance premiums, office expenses and medical supply costs. The percentage increases for these items between 1982 and 1983 were 22.4%, 20.0% and 17.9%, respectively. At $29,200 in 1983, nonphysician personnel expenses was still the largest single expense component. However, the level of personnel expenses in 1983 represented a decline of 3.9% from a year earlier. This decline, in part, offset increases in other expense items, thereby reducing the rise in overall expenses for 1983.

Variations in total expenses

As shown in Table 1, the largest increase in total expenses from 1982 to 1983 was for medical specialists. This increase amounted to $8,100 or 11.1%. Although surgical specialists continued to have the highest level of expenses in 1983, averaging $111,900, their expenses increased by the smallest percentage (5.5%) from 1982 to 1983.

Examining 1983 professional expenses on a regional basis indicates considerable variation. Expenses ranged from a high of $25,100 in the South to a low $70,000 in the Northeast. However, physicians in the South experienced the smallest percentage increase in expenses (7.1%), while those in the Northeast had an above average percentage increase (11.6%) from 1982 to 1983. This contributed to a slight narrowing in differences in expenses across regions between 1982 and 1983.

(continued on page 2)

TABLE 1
Average Professional Expenses of Self-Employed Physicians, 1982 and 1983

	Average Expenses		Percent Change
	1982	1983	
ALL PHYSICIANS*	$ 78,400	$ 85,900	9.6%
Specialty			
General/Family Practice	75,700	80,500	6.3
Medical Specialties	73,200	81,300	11.1
Surgical Specialties	106,100	111,900	5.5
Region			
Northeast	62,700	70,000	11.6
North Central	76,000	86,900	14.3
South	88,800	95,100	7.1
West	77,900	84,800	8.9
Location			
Nonmetropolitan	82,900	88,000	6.2
Metropolitan			
Less than 1,000,000	78,100	91,500	17.2
1,000,000 and over	77,500	79,700	2.8

*Includes physicians in specialties not reported separately.

Resolutions sought for '85

Deadline for submission of resolutions for introduction before the 1985 Annual Convention is February 22, 1985.

MSMA members, component medical societies and medical student delegates may introduce resolutions. Resolutions received by the deadline will appear in the convention delegates' handbooks.

Any resolution submitted after the deadline must be made available to the House of Delegates 24 hours before the session at which it is to be introduced.

The House must approve the introduction of late resolutions submitted for the second and third sessions at the Convention.

Introduction of a resolution at the second session requires a two-thirds majority approval of the House. Introduction at the final session requires unanimous approval in order to be presented.

The individual or society introducing a resolution after the February deadline is responsible for supplying enough copies of the document for all convention delegates.

Tip of the Month

This office tip comes from Dorothy Poochigian, office manager for Edwin G. Wiens, M.D., of Fresno, Calif.

"Whenever I schedule an appointment for a patient, I enter it in the appointment book *and* jot it down in the patient's file.

Many a time a patient will telephone and say that he forgot the date or lost his card. I quickly look in his file, rather than hunting through the pages of the appointment book. There it is!"

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★Expenses

(continued from page 1)

A comparison of professional expenses in urban and rural areas shows that the most rapid percentage increase in practice expenses occurred in metropolitan areas with populations of less than one million (17.2%). Physicians practicing in such areas now have the highest average level of practice expenses. In contrast, physicians in large metropolitan areas had both the lowest level of expenses in 1983 ($79,700) and the smallest increase between 1982 and 1983 (2.8%).

Income after expenses, before taxes

In 1983, the average net income of all physicians (after expenses, but before taxes) was $106,300. This figure includes contributions made into pension, profit-sharing and deferred compensation plans. The level of earnings in 1983 reflected an increase of 6.8% over 1982. This is nearly identical to the 7.0% growth rate observed from 1981 to 1982. With inflation again quite low, physicians' income grew faster than the rate of inflation. Despite these real gains in earnings, physicians' purchasing power in 1983 still lagged behind purchasing power in 1970. In 1983, physicians' earnings in terms of the value of the dollar in 1970 totalled $41,400 -- some $400 less than the purchasing power of physicians' earnings in 1970.

Surgeons had the highest average net income in 1983 ($138,900) among the major specialty groups. They also experienced the highest growth rate in net income (9.6%) over the previous year. By contrast, the average net income of general and family practitioners fell by 4.7% in 1983. This may reflect increased competitive pressures among primary care physicians. Although this conclusion must be regarded as tentative, the relatively greater growth in 1983 income for surgical specialists is consistent with the pattern observed in 1982. This points to a discernable trend in the relative prosperity of physicians by specialty. Surgical specialists now earn approximately twice as much, on average, as physicians in general and family practice.

Percentage increases in net incomes in 1983 differed more between metropolitan and nonmetropolitan areas than across regions. The lower growth in nonmetropolitan areas (0.3%) compared to urban areas (6.8% and 8.0%, respectively, for areas with less and more than one million population) contributed to increasing differentials in the levels of earnings among these areas. This may be related to the greater share of primary care physicians, who have experienced lower than average increases in incomes, in nonmetropolitan areas.

Although average net income after expenses before taxes remained higher among self-employed physicians than for employee physicians in 1983, earnings grew more slowly for self-employed physicians (6.3%) than for employee physicians (8.5%). The lower relative growth in earnings for self-employed physicians may reflect the impact of rising practice expenses.

Information for 1983 included in this report is from the third annual core survey of the Socioeconomic Monitoring System (SMS). The survey consisted of interviews with 4,002 physicians from a sample representative of all non-federal patient care physicians. The survey response rate was 61.9 percent.

Medicare to convert codes to HCPCS

Effective Nov. 26, 1984, General American/Medicare Part B will be using the Health Care Financing Administration (HCFA) Common Procedure Coding System (HCPCS). The conversion will help establish a uniform coding system nationwide for all Part B carriers.

HCPCS is based on CPT 1984. It is a five-digit alpha-numeric system with modifiers.

Three levels of codes are assigned and maintained by different organizations. Level I contains only the AMA's CPT 1984 codes, except anesthesiology, which should be submitted using surgery codes. These codes range from 10000-99999 and represent physician services such as examinations, radiology, pathology and surgery.

Level II codes are assigned by HCFA and represent physician and

(continued on page 3)

Reagan signs federal Baby Doe law

President Ronald Reagan signed into law recently the "Baby Doe" legislation that permits the prosecution of medical personnel who withhold treatment of severely handicapped infants.

Similar legislation has been introduced each of the past two years in the Missouri General Assembly, but has gone down to defeat both times.

The federal legislation, opposed by the AMA, expands the definition of child abuse to include "medical neglect." The law is a response to the 1982 Bloomington, Ind., case in which a severely handicapped child died six days after birth. "Baby Doe's" parents, on their doctor's advice, had ordered food withheld from the child, and refused permission for surgery to correct defects in his digestive tract.

Exceptions to the new Baby Doe law are made only in cases where in the physician's "reasonable medical judgment," the infant is irretrievably comatose or would not survive even if treated.

Other provisions of the law, officially labeled the "Child Abuse Amendments of 1984," call for states receiving federal child abuse funds to establish rules to prevent "medical neglect"; extend federal child abuse prevention programs through 1987; expand the definition of child sexual abuse; promote adoption of severely handicapped children; and establish a new program to prevent family violence.

Medicare decision deadline extended

A two-week delay was granted in late September on the Oct. 1 deadline for signing as a participating/nonparticipating physician under the new Medicare provisions of the Deficit Reduction Act of 1984.

Judge Sarah Evans Barker, in an emergency hearing, made the ruling -- in part -- for those physicians who had failed to receive requested information about their Medicare profiles or actual charges by the Sept. 28 hearing date. The ruling, made in Indianapolis, applies to all Indiana State Medical Association members and all AMA members nationwide who fit the criterion.

At the Sept. 28 hearing, Judge Barker made no ruling on the challenges to the Medicare rule constitutionality made in the AMA suit,

(continued on page 4)

★HCPCS

(continued from page 2)

non-physician services not contained in CPT 1984. Level II includes ambulance, orthotics, prosthetics, etc. These codes are a combination of one letter and four numbers, ranging from A0000-V9999. They are common to all Medicare carriers.

Level III codes are assigned and maintained by local carriers. These codes represent services and items that are not in CPT 1984, and are not common to all carriers. These codes range from W0000-Z9999.

Physicians whose offices precode claims should be sure they are using the new CPT 1984 book.

The codes and text of CPT 1984 are also contained on magnetic computer tape, in two different forms. One contains shortened procedure descriptions, written in a non-technical fashion; the other contains the complete CPT 1984 procedural text.

Tapes are available on 9-track, 800 BPI, or 1600 BPI card image records, in an 80-byte line format.

For more information about these computer tapes, call or write:

Department of Health Care Resources
CPT-4 Magnetic Computer Tapes
American Medical Association
535 North Dearborn
Chicago, IL 60610
312/751-6785

If you have questions or problems relating to the new HCPCS, you can contact General American for information at

General American
P.O. Box 505
St. Louis, MO 63166

Medicaid changes

Newborn applications

Physicians who have primary care responsibilities for pregnant Medicaid recipients are being asked to encourage the expectant mother to make early application for her newborn. She should apply during the eighth or ninth month of pregnancy.

The IM-1 form for newborn applications is given to the mother by her caseworker. Hospitals are now requesting copies of this form at the time of delivery, so staff physicians are asked to remind the mothers to bring the form with them at the time of admission.

The provider also needs to contact the caseworker (whose name appears on the IM-1 form) with information about the baby's birth. The early application process is designed to speed the assigning of a Medicaid number to the newborn.

Outpatient surgical procedures

The limitation that certain surgical procedures will not be reimbursed by Medicaid if performed as an inpatient procedure can be overridden under certain circumstances.

The Medicaid hospital bulletin of Dec. 18, 1983, listed these exceptions. Exceptions must be documented on a Medical Necessity form attached to the claim. Inpatient claims submitted that indicate an "outpatient" procedure was performed are being returned to the provider if the Medical Necessity form is not attached.

Medicaid's medical consultants are also denying claims on which the *reason for the surgery* is listed on the Medical Necessity form. The consultants need to review the *reason the procedure was performed as an inpatient service rather than outpatient*. According to Medicaid, more claims would be processed and paid if providers would complete the forms as required.

Code changes

Physician providers and their office managers should note the Medicaid code changes in the October 5, 1984, Missouri Medicaid Bulletin.

These changes cover Hemodialysis Procedures; Peritoneal Dialysis; Chemosurgery; Tympanostomy Procedures; and Obstetrical Care and Deliveries.

★Medicare decision

(continued from page 3)

which was filed Sept. 21.

The four principal areas in which constitutionality was challenged are as follows:

1. The freeze of physician charges for 15 months is a violation of equal protection laws.
2. The rules effectively deny beneficiaries the right to select their own physician.
3. They interfere unlawfully with the rights of physicians to contract with Medicare beneficiaries.
4. The Department of Health and Human Services violated the Administrative Procedure Act and physicians' rights to due process of law by implementing the new law without notice, public comment, and a rule-making proceeding.

Medicaid changes

Medicaid physician providers are advised that the processing procedure for Medicaid "lock-in" claims is changing, effective October 15, 1984.

Medicaid recipients who misuse the Medicaid program are restricted, or "locked in" to specific providers. The restriction appears on the Medicaid card, directly below the recipient's name. It has an identifying prefix "LI." The assigned provider name, number, ZIP code and telephone number also appear.

For these "lock-in" recipients, only the named provider is authorized to provide services. Exceptions are made for emergency services (Medical Necessity forms must be attached to these claims), and referrals from the authorized provider (a referral form must be completed).

It is the provider's responsibility to determine if a recipient has a restricted card. Payment will not be made if an unauthorized provider gives non-emergency, non-referred services to a "lock-in" Medicaid recipient.

MMPAC reports new members

The Missouri Medical Political Action Committee reported 13 new members and one new sustaining member as of late September, bringing the total membership in MMPAC to 1,702.

Contributions to the committee for 1984 stand at $38,360 to date.

MMPAC is the legislative lobbying arm of the MSMA. It is supported by individual voluntary contributions.

Keeping communication open

The MSMA Communications Department has produced a number of publications for you and your practice, available free or at cost to MSMA members.

■ **Cost Containment** — This popular brochure addresses the issue of rising health care costs. "You and Your Physician — Partners in Reducing Health Care Costs" makes good-sense suggestions to help patients keep their own health care costs down, and explains what doctors are doing to contain costs. These brochures are available at 10 cents each.

■ **Patient Surveys** — For your waiting room or as an enclosure in billings, these small brochures are designed to elicit honest opinions about your practice from your patients. The answers to the quick survey can provide you and your staff with valuable feedback regarding the operation of your practice. Available for 10 cents each.

■ **Medical Records Brochure** — These sturdy, covered booklets serve as an all-in-one record of immunizations, surgeries, allergies, insurance, and family history. Useful to all patients, young and old, the booklets are available for 15 cents each.

■ **MSMA Membership Certificate** — These new and attractive certificates are printed on a strong gray textured paper and are excellent for framing. Each year you will also be sent a small annual sticker to apply to your certificate to keep it up-to-date. Available free upon request.

■ **Public Relations Brochure** — This brochure outlines some simple steps every physician can take to improve communications with his/her patients. It also outlines some helpful communication tips for your office staff to apply to improve your image with patients. Available free upon request.

■ **Physician Public Relations** — This free packet of information outlines three specific steps physicians can take to improve communication with patients. The packet includes a sample of a patient survey and a patient information brochure.

■ **Medical Messages** — Each month, the MSMA Communications Department produces two medical columns on a wide range of topics such as breast cancer, AIDS, caffeine, Herpes Simplex, high blood pressure and asthma. These illustrated articles, on coated print paper, are available to physicians at an annual cost of $12. Each subscribing physician will receive two articles a month that may be displayed or reproduced for distribution to patients.

NEW from the MSMA

Just released from the MSMA, A WOMAN'S CHOICE: Five copies of this booklet, which discusses alternative treatments for breast cancer, were mailed to each MSMA member. You may order additional copies for distribution to your patients. Attractive and informative, they are available for 10¢ each, plus $1 postage and handling for the first 500 copies. Add $1 for each additional order of 500.

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The price of *Motrin* Tablets to pharmacies has been reduced as much as 35%. Patients taking the average dosage should now pay less for therapy with *Motrin* Tablets than for almost any other nonsteroidal anti-inflammatory drug you prescribe...less, for example, than for Clinoril, Feldene, or Naprosyn. And, of course, all strengths of *Motrin* Tablets continue to be available by prescription only.

Please turn the page for a brief summary of prescribing information.

Motrin® 400 & 600 mg TABLETS
ibuprofen

Good medicine...good value

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Motrin® Tablets (ibuprofen)

Contraindications: Anaphylactoid reactions have occurred in individuals hypersensitive to *Motrin* Tablets or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin, iodides, or other nonsteroidal anti-inflammatory agents

Warnings: Peptic ulceration and GI bleeding, sometimes severe, have been reported Ulceration, perforation and bleeding may end fatally An association has not been established. Use *Motrin* Tablets under close supervision in patients with a history of upper gastrointestinal tract disease, after consulting ADVERSE REACTIONS In patients with active peptic ulcer and active rheumatoid arthritis, try nonulcerogenic drugs, such as gold If *Motrin* Tablets are used, observe the patient closely for signs of ulcer perforation or GI bleeding

Chronic studies in rats and monkeys have shown mild renal toxicity with papillary edema and necrosis Renal papillary necrosis has rarely been shown in humans treated with *Motrin* Tablets

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported If these develop, discontinue *Motrin* Tablets and the patient should have an ophthalmologic examination, including central visual fields and color vision testing

Fluid retention and edema have been associated with *Motrin* Tablets; use with caution in patients with a history of cardiac decompensation or hypertension In patients with renal impairment, reduced dosage may be necessary. Prospective studies of *Motrin* Tablets safety in patients with chronic renal failure have not been done.

Motrin Tablets can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and on anticoagulant therapy

Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, skin rash, weight gain, or edema

Patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* Tablets are added

The antipyretic, anti-inflammatory activity of *Motrin* Tablets may mask inflammation and fever

As with other nonsteroidal anti-inflammatory drugs, borderline elevations of liver tests may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy Meaningful elevations of SGPT or SGOT (AST) occurred in controlled clinical trials in less than 1% of patients Severe hepatic reactions, including jaundice and cases of fatal hepatitis, have been reported with ibuprofen as with other nonsteroidal anti-inflammatory drugs. If liver disease develops or if systemic manifestations occur (e g eosinophilia, rash, etc.), *Motrin* should be discontinued.

Drug interactions. *Aspirin:* used concomitantly may decrease *Motrin* blood levels.

Coumarin: bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy or by nursing mothers

Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus; **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite, **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation, see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests; **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma, **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS), **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit, **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations; **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting, anaphylaxis; bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria, **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri, **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions, **Special Senses:** Conjunctivitis, diplopia, optic neuritis; **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin.* (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under "*Probable Causal Relationship (PCR)*" if there has been one positive rechallenge or if three or more cases occur which might be causally related. Reactions are classified under "*Causal Relationship Unknown*" if seven or more events have been reported but the criteria for PCR have not been met.

Overdosage: In cases of acute overdosage, the stomach should be emptied The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis. Suggested dosage is 300, 400, or 600 mg t.i.d or q i.d Do not exceed 2400 mg per day Mild to moderate pain: 400 mg every 4 to 6 hours as necessary

Caution: Federal law prohibits dispensing without prescription. MED B-7 S

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Missouri Medicine

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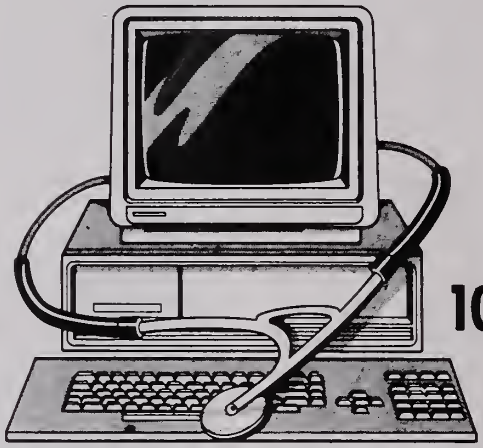

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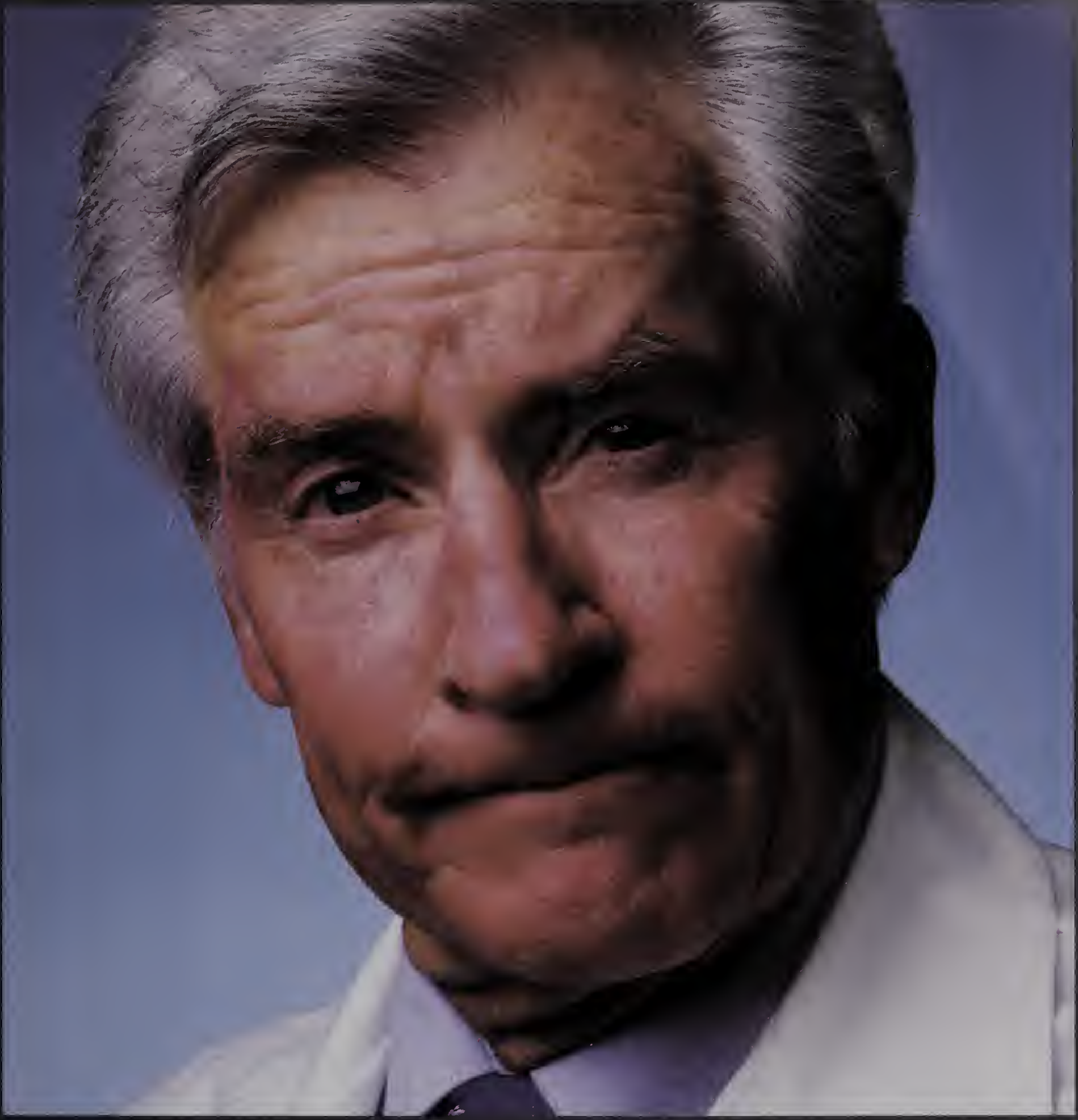

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Editor's Corner

Editorial

Medical practice has long been considered a unique amalgam of Art and Science — with the proportions varying from practitioner to practitioner. Over the decades, there has been a gradual shift from a balanced Art-and-Science care of patients to a much more scientific approach. We are now in an age of "high tech" medicine, and as one could well imagine, Art often seems to have gone by the wayside.

This seemingly irrepressible change has been bringing forth complaints from all sides — not just from the older practitioner who doesn't see the need for a Swan-Ganz line if his patient skips a heart beat. The public doesn't care for the cold efficiency of the system; the insurers don't like to pay for it. More and more questions are being asked about the impact of this technological era of medical care as it involves both diagnosis and treatment. Some patients may be too sick for their bodies to make use of all that could be applied to their problems. Others are not ill enough to require the sophisticated instrumentation available. A new piece of equipment or procedure, heavily promoted, may not yet have a proven track record as to its capabilities and safety, but some physician or hospital has to be the first in town to have and use it. (Of course, such innovation calls for a story, preferably with pictures, in the local newspaper promoting the latest and greatest mechanism available to bring health and happiness to the community.)

Complex equipment and procedures may not be required for quality medical care and not necessary at all for patients with very poor prognoses. Some procedures have an inherent element of risk, too easily overlooked in the clinician's enthusiasm for information which may be obtained if all goes well. Technically interesting information is clinically useless unless the results can lead to a better way of managing the patient. Lives may be prolonged when it is of questionable benefit to the patient involved; perhaps the "living will" concept may have an increasing role in determining how far to go in maintaining life.

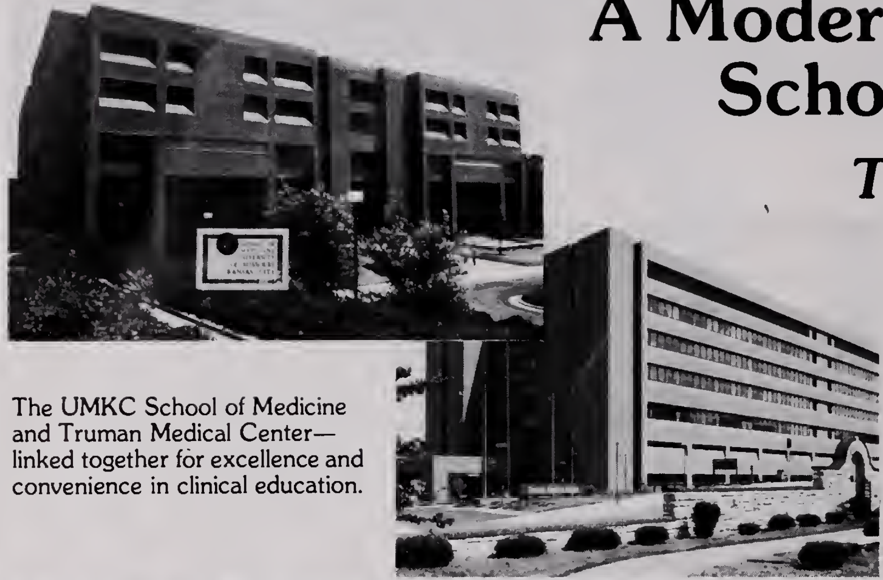
The people playing the bills for all of this technological care are bucking at the cost, and the financial dilemma involving procedure expense has everybody's attention. It would seem proper that organized medicine needs to show some leadership in this realm rather than merely waiting for governmental and business-insurance sector edicts to say who may and who may not benefit from our more expensive medical machinery. It can be said with certainty that the doctors would not agree with such dictums; such would go against their inbred disdain for external controls. Independent, physician-run fact-finding organizations, not involved in practice or research or promotion, need to study our medical technology. Prolongation of life is important, but often more so is the physical and mental quality of life provided by any treatment modality under consideration. These factors, as well as cost effectiveness, need study by such groups to help us practice medicine in the most reasonable way.

Somewhere between the kind word, calomel and whole-leaf digitalis practice of long ago and the electronic era of the 80s, there would seem to be a method of practice in which physicians could do a good job, hopefully not run up tremendous expenses, and most importantly allow the patient to feel that he is being cared for in a personal way. Human beings are born without electronic parts and, in general, would much prefer to go through life involved with as little such medical wizardry as possible.

Jordan W. Burkey, M.D.
Springfield

A Modern Medical School Facility—

Ten Years Later



The UMKC School of Medicine and Truman Medical Center—linked together for excellence and convenience in clinical education.

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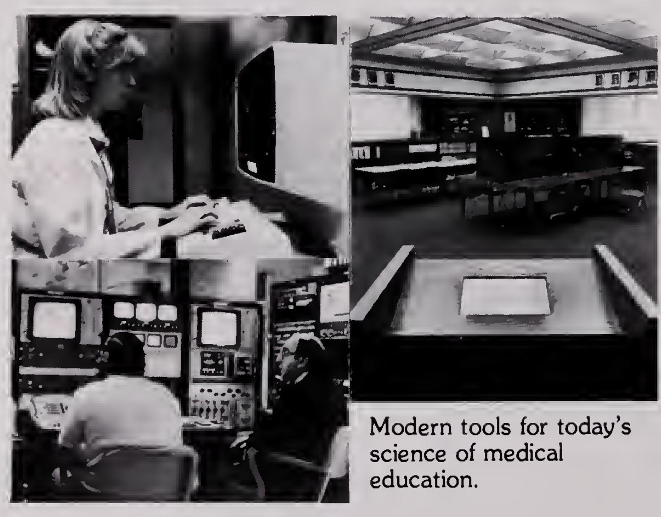
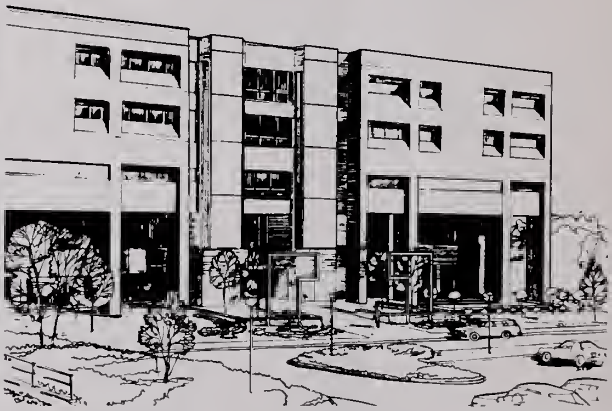


Modern tools for today's science of medical education.



The future—new improvements to enhance a beautiful, functional building. An artist's rendering of the Carter Memorial Courtyard now under construction.

UNIVERSITY OF MISSOURI - KANSAS CITY
SCHOOL OF MEDICINE

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Missouri Medicine

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Another UMKC Milestone

By
HARRY S. JONAS, M.D.,
Dean, School of Medicine

This year, the University of Missouri-Kansas City School of Medicine marks its tenth anniversary of its residency in its present physical facility.

Dean Jonas points out the important milestones in the progress of the School of Medicine since its establishment in 1971.

The establishment of a second state-supported medical school in Kansas City in 1971 was an important milestone for the state of Missouri and for medical education throughout the nation as well. In 1968, the Board of Curators of the University of Missouri, in what was a courageous and farsighted decision, approved the concept of a community-based, medical-education model in Kansas City to complement the existing, traditional medical school in Columbia.

The model that Kansas City supporters and educators proposed called for early admission of medical students to a formal program and early exposure to clinical medicine; the integration of liberal arts and humanities with basic sciences and clinical medicine throughout a six-year, year-round curriculum; a docent-system of education that would combine small-group teaching with close, student-faculty interaction; the use of the superb, existing clinical facilities of the Kansas City community's hospitals to avoid duplication of unnecessary clinical settings; and a revolutionary, functional architectural design for a physical facility centered totally on the student's every educational need.

Concurrent with the 1971 inauguration of the six-year medical program in temporary housing that formerly served as a nurses' residence, the construction of the new medical school's physical facility began. Three years later, in August, 1974, students, faculty and staff moved into the cavernous (at the time), new, red-brick building on Hospital Hill with its three futuristic, audiovisually equipped auditoria and its eight docent teams of 50 individual-student offices comprising 32 functional, 12-student docent units to coincide educationally with the soon-to-be-built Truman Medical Center's patient-care medicine clinics.

Today, a decade after moving in, we celebrate the tenth anniversary of our residency in our physical facility. Another milestone. As you read this, construction is underway on the Armistead Carter Memorial Courtyard, a blend of clay-fired brick, copper-clad arches, and native Missouri shubbery that will grace the entrance to the School.

This month, the Liaison Committee on Medical Education (LCME) visits us for a reaccreditation survey. Another milestone. In 1979, the LCME conferred continuing full accreditation to UMKC's medical education program for five years. A 1983 LCME interim report cited UMKC as "an outstanding example of a medical-student oriented organization. The physical plant, the support services, and the curriculum all emphasize the primary focus on the medical student."

(Continued on page 720)

Balloons and Acupuncture

By
E. GREY DIMOND, M.D.
Provost Emeritus
UMKC School of Medicine

We Westerners read of traditional doctors in China — the herbal, acupuncture doctors. One needs to understand the merit of traditional Chinese medicine: It is economical in terms of the use of health-care providers. There are 700,000 traditional physicians now working "in the system," absorbing a vast number of the initial health complaints of 1 billion people. The "style" of such a medical practice is inexpensive; acupuncture and herbs are far removed from the cost range of modern x-rays, laboratory tests and medication.

Such medical practice in China has been made safe by bringing the traditional physician into a partnership with the scientifically-trained Chinese physician. One merit of the kind of training given to the scientifically-trained physician is that when he is brought into position as a colleague of a traditional Chinese doctor, he can watch the progress of diseases that he well understands and for which he has a reasoned pathophysiological explanation of treatment.

Appendicitis is one good example. I realize there are several variations and stages of appendicitis and, that in the West, treatment varies depending on the problem. However, in general, treatment can be generalized by the simple word "surgery." In China, that is not the general form of treatment, although the scientifically-trained surgeon is available when needed.

The Chinese have published in world literature, available for critical review, the fact that even Chinese surgeons agree that 85% to 90% of appendicitis is treatable by herbs — without surgery. This statement may be unacceptable to the American surgeon and he may reject it. But the scientifically-trained Chinese physician has had to learn that a Chinese herbal treatment can be satisfactory and eliminates surgery in four out of five patients. Is this reliable information? Was the right diagnosis made? Can this claim be trusted?

With the increased influence of academic medicine in China, and the end of the Cultural Revolution, I recognize that the Chinese opinion may change. During the Cultural Revolution, the more sophisticated the medical center, the lower the degree of acceptance of herbal medicine. Today, one suspects the Chinese "Western" style physician would prefer "the knife" for his own personal care. But the majority of Chinese patients first see the herbalist. Appendicitis and herbal treatment have lessened but not at all stopped.

However, for the present, the scientifically-trained physician working with the information at hand simply cannot reject the Chinese articles. Instead, he is obligated to get on with proving or disproving the information by adequate controlled experiments. The present Chinese treatment leaves the Western physician with few choices.

He can:

— reject the proposal as an example of illiterate medical workers;
— reject as an example of bending before political pressure; accept in blind faith;
— or, recognize the need to set up the necessary control studies.

The very listing of appendicitis treatment without surgery leads one immediately to the first of these conclusions, but when their published results claim 85% to 90% healing without surgery, how can one but turn to the last conclusion?

What is the prescription for the medical treatment of appendicitis in China?

1. Rheum tanguticum
2. Sargentodoxa cuneata
3. Magnolia officinalis
4. Tarasacum mongolicum

Before the reader rushes to the nearest health store, it may be helpful to know that items one and four are rhubarb and dandelion. The magnolia? Dr. C. P. Li states, in "Chinese Herbal Medicine" (1974), ". . . experimental results showed that the extract (magnolia bark) has anti-

Salmonella typhosa and other antibacterial actions."[1]

Why a laxative, rhubarb? Most American physicians have as a basic tenet of their training an admonition against use of a cathartic if the patient's problem remotely suggests appendicitis. Why now this opposite opinion in China? What antibacterial factor is involved? The need for the American research institution to give thoughtful attention to this is apparent, even if the final answer to this alternative is no.

Is not the same open-minded research approach necessary for acupuncture? Can we not accept that 90% (plus or minus) of its use is psychosomatic? But can we, as objective people, turn away from the unexplained 10%?

Dr. John Z. Bowers[2] gave a substantial, honest summary of the state of acupuncture in a paper he presented before the annual meeting of the American Association for the Advancement of Science in February, 1978. His paper's title summarizes his attitude: "Reception of Acupuncture by the Scientific Community: From Scorn to a Degree of Interest."

All of us, medical professionals or the general public, should have a continuing degree of scorn for the wild claims of acupuncture. However, the scientific evidence that the process of acupuncture results in the brain's release of a pain-suppressing chemical comes very close to providing the needed scientific answer.

There is a logical vast overuse of acupuncture in China; it is one means that has helped in the dilemma of how to handle the medical care of a huge population. There is unfortunate uncritical use in the United States. This uncritical use has tainted the idea of acupuncture for most of us working at universities. Fortunately, good institutions are at work and the second part of Bowers' title seems to be the present truth: ". . . from scorn to a degree of interest."

My own efforts in this field are zero. I have no acupuncture experience and will, at this stage of my life not become, by any version, an acupuncturist.

Another experience is shared by almost all China visitors who have observed surgery done without a traditional anesthetic, but under acupuncture anesthesia. (Chinese use the term "anesthesia;" American anesthesiologists prefer the term "analgesia.")

This highly charged experience — major surgery on an awake patient, with the release from pain attributed to a manipulation or electrical stimulation by needles, has now been a part of Chinese medical care for more than ten years. At the same time, this form of "anesthesia" has essentially no accepted role in the majority of American health institutions.

The reports of American physicians who have seen surgery under acupuncture in China have not altered the excellent practice of anesthesia available in the United States. The wealthy, scientifically advanced United States has sufficient equipment, supplies and personnel. Acupuncture anesthesia has minor reason for acceptance here. The standards and safety of modern anesthesia do not need acupuncture.

The use of acupuncture anesthesia, even in China, has decreased greatly in recent years. American critics will say, "Of course it has decreased. It was all political humbug." The fact that there was major political pressure for its use is true; it is equally true that a sufficient degree of analgesia was produced to permit major surgery.

The larger question is the scientific issue of cause-and-effect. Even if the procedure is not likely to become a standard in American operating rooms, one has the challenge posed by the Chinese success with acupuncture anesthesia and the increasing literature defining neurophysiological and neurochemical mechanisms.

American medical literature has not helped by its eagerness to deny any possible neuropharmacological explanations. An example of this occurs in the tone of the heading of an editorial appearing in the June 6, 1977 issue of the "*Journal of the American Medical Association*." The title? "Acupuncture Anesthesia: Pricking the Balloon." Rudolph H. de Jong, M.D. presents facts, but he presents them with negative connotations.[3] Yet in the body of his editorial, he finds himself able to write: "Of the six intrathoracic operations (including one repair of a ventrical septal defect under extra-corporeal circulation) only one (of the patients) was not covered satisfactorily by (acupuncture anesthesia)."

Translated, this means that six humans had their chests opened surgically, including one who had his heart opened and a hole in it repaired. Five of the six required no "anesthetic other than acupuncture." Some balloon! Some pricking! The editorial fails to explain the ability to open the chest in five patients, plus the heart in a sixth, with pain obtunded by wiggling a needle placed three fourths of an inch deep in a forearm.

Chinese scholars are now coming to American universities; a few Americans are beginning research work in China. The major result of this cooperation will be to bring China up to a world-level of science and technology. In the main, the Chinese will be taking new information and techniques to China, but there are obvious benefits for the United States. For example, the number of graduate students committed to basic research is decreasing in the United States; this new pool of able, dedicated, young Chinese scholars will be a substantial boon to American university research.

Second, of course, is the potential Chinese market for the American scientific equipment that Chinese scientists will have learned to use. Some shared research will develop around acupuncture, and the answer to why it works will be found. One suspects that the use of the needle and all of the traditional lore as to where the needle must be placed will become of historical interest once the brain mechanism is identified. Acupuncture may become a capsule, taken by mouth.

The Chinese success in limb reimplantation, in the salvage of third-degree burns, in the willow-splint treatment of fractures, in the mechanics of public education which has essentially stopped addiction, prostitution, venereal disease, and rampant population growth, are obvious potential fields for us to study.

However, scientific analysis of the prescriptions of traditional medicine may well be the major benefit to the world. Every day, millions of Americans take trusted medications that have come from folklore knowledge. Digitalis, morphine, quinine, quinidine, ephedrine and reserpine are but a half-dozen examples of the vindication of our ancestral herbal enthusiasts.

Now we join the ranks with the Chinese and combine their theories, their practical knowledge, their ability to carry on human testing without our Food and Drug Administration and with our methods of detection of active ingredients, route of the drug through the body, correct drug dosage, and good or bad side effects.

The potential for exciting discovery is immense and may prove to be the major cooperative research area for Chinese and American scientists. There is real excitement in the scientific world as talented Chinese youths come into our laboratories.

The whole issue of the "marriage of traditional and Western medicine" cannot be separated from the pressures of the Cultural Revolution. To my critical eye and ear, there was always a certain haze that came down over the expression, or a change in the cadence of speech, of the physicians of the best medical centers when the conversation inevitably moved to their justifying the rationale of all things claimed for herbs and acupuncture. Although loyal Chinese, they are also intelligent and trained in the fullest medical-world sense.

In September, 1971, Paul White and I were exposed to a full barrage of herbs, acupuncture, acupuncture for deafness, and acupuncture anesthesia. We also were the guests in Peking of the medical leadership — men and women with the highest degree of medical and surgical sophistication. By no shadow of wording did they fault the role of acupuncture, for example, in the treatment of deafness. This new relationship was precisely well-mannered and cordial but unremittingly cautious. No negative remarks were made about traditional medicine. The steady phrase was, "It has not all been worked out yet. It is being studied."

In January, 1979, I was at a reception given by the Chinese government. This was after the Cultural Revolution and after the Chinese had announced they would seek world assistance to gain modernization.

Suddenly, I was gently tugged by the elbow, and standing there was a Chinese physician who had been one of my hosts in Peking in 1971. He said, "I must tell you now that much of what was told you about acupuncture in 1971 was not correct . . . in fact, some of it was actually not the truth."

We smiled at each other beneficently, each looking at the other's eyes for seconds. He said, "I know you will understand." I nodded and he moved quietly across the room.

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Antiasthmatic Drugs

BRONCHIAL ASTHMA is a disease of children and adults affecting approximately 3% of the population of the United States. Drug therapy now available is effective for management of acute exacerbations of asthma and for chronic disease management. Recently, several "new" antiasthmatic drugs have been marketed. These agents are not truly "new" drugs, however. In many instances, they actually represent derivative of drugs that have been available for years, i.e., "me too" drugs. The major antiasthmatic drug categories today include methylxanthines, sympathomimetic amines and corticosteroids. There has also been a resurgence in the use of antimuscarinics, i.e., atropine-like drugs. The purpose of this review is to provide a concise overview of these drugs by concentrating on their pharmacology, indications, adverse effects and dosing considerations.

METHYLXANTHINES

Structurally, theophylline is a methylxanthine and is closely related to caffeine and theobromine.[1] Traditional teaching states that theophylline exerts its effects by interferring with the action of phosphodiesterase,[2] although this theory has been questioned recently.[3-5] Theophylline has also been shown to reduce diaphragmatic muscle fatigue in normal volunteers.[6]

In contrast to disorders characterized by irreversible airways obstruction, the use of theophylline for reversible airways disease is well supported. Theophylline has been proven effective for acute and chronic management of asthma as well as exercise induced bronchospasm.[7-9]

Theophylline is well absorbed when administered as a liquid or a conventional tablet.[10] Recently, numerous slow-release theophylline formulations have become available. These preparations vary in absorption characteristics and should not be used interchangeably.[11-12] Specifically, the speed and extent of absorption vary, dictating close attention to product selection. Following absorption, theophylline distributes into an apparent distribution volume of 0.45 l/kg (range = 0.3-0.7).[13] Theophylline is known to penetrate into breast milk and crosses the placenta.[14, 15] Protein binding is estimated to be approximately 60%.[16]

Theophylline is extensively metabolized by the liver to inactivate metabolites with minimal first pass clearance.[17] Drug elimination is slow in neonates and increases significantly in young children and adults who smoke.[18, 19] The presence of hepatic disease or congestive heart failure, or the presence of interacting drugs, frequently explain major differences in clearance between and within individuals.[20, 21]

The high correlation between theophylline concentration and clinical response and the inability to reliably predict theophylline clearance underlies the use of theophylline serum levels. Most patients respond optimally within a theophylline concentration of 10-20 μg/ml.[22, 23] One important principle concerning the beneficial effects of theophylline is that the relationship between concentration and improvement in pulmonary function is log-linear.[24]

In therapeutic concentrations, theophylline is generally well tolerated. Initiation of therapy is occasionally associated with caffeine-like effects.[25] Fortunately, these effects can be minimized by initiating theophylline therapy with lower doses. Theophylline-induced tachyarrhythmias and premature ventricular contractions are seen most commonly in patients with excessive drug concentrations.[26, 27] When ad-

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During the last several years, new antiasthmatic drugs have been marketed. This review addresses the drugs available today, the mechanism of drug action, pharmacokinetics, adverse effects and dosage. Therapeutic drug monitoring and drug interactions also are discussed.

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ministered as an intravenous bolus, hypotension and cardiac arrest have been reported.[28] Seizures have also been observed in patients with high theophylline concentrations.[29]

The loading dose of theophylline is based on body weight and the preexistent drug concentration. Generally for every 1 mg/kg of theophylline administered, the concentration will increase 2 mg/l, assuming a volume of distribution of 0.5 l/kg.[30] The frequently cited aminophylline loading dose of 5.6 mg/kg (equivalent to 5 mg/kg of theophylline) would therefore be expected to produce theophylline concentrations of 10 mg/l.[24]

Recently, practical recommendations (Table 1) for initiating theophylline maintenance therapy have been published. They take into consideration age, smoking status, and disease state.[31] These guidelines illustrate the point that maintenance doses must be tailored to the patient. The concomitant administration of interacting drugs must also be recognized (Table 2).

Slow-release theophylline preparations are formulated so that they will disintegrate and be absorbed at a slow rate.[43] The fluctuation between peak and trough concentrations with slow-release products is considerably less than are conventional preparations in the same patient. These products are most useful in patients with rapid theophylline elimination, e.g., children and adults who smoke. Before a slow-release product is selected for use, it must be shown to maintain acceptable peak and trough concentrations consistently. Several slow-release preparations were evaluated in this regard recently and some were unable to achieve this goal when administered twice daily.[11]

TABLE 1
AMINOPHYLLINE INFUSION RATES

Population	*Age (yrs)*	*Aminophylline infusion rate (mg/kg/hr)*
Young children	1-9	1
Older children	9-12	0.9
Adolescents (non-smokers)	12-16	0.6
Adults (healthy non-smokers)	>16	0.5
Adults (healthy smokers)	>16	0.9
Adults (cor-pulmonale, or liver dysfunction or combination)	>16	0.3

These recommendations are designed to produce theophylline concentrations of 10 mg/l. Appropriate serum assays are needed to verify the actual concentration achieved.

Sympathomimetics

The role of bronchodilators, which work by stimulating the beta adrenergic receptors directly, has increased significantly in the United States. Adrenergic receptors are subdivided into two major types, alpha and beta.[44] Beta receptors are further subdivided into beta-1 and beta-2 types.[45] The mechanism by which bronchial smooth muscle relaxation occurs is thought to involve direct stimulation of the beta-2 receptor with subsequent activation of adenylate cyclase.[46] Unfortunately, beta-2 stimulation is also responsible for some of the unwanted effects that occur with these drugs. Tremor is commonly experienced by patients receiving beta agonist therapy.[47] This is thought to occur via stimulation of beta-2 receptors in skeletal muscle. Stimulation of the beta-2 receptors in the blood vessels supplying the skeletal muscles is partially responsible for the observed tachycardia by decreasing total peripheral resistance.[47]

Available direct-acting sympathomimetics differ primarily in receptor specificity, potency, susceptibility to enzymatic degradation, and duration of action. An important principle that applies to all beta agonists is that receptor selectivity is dependent upon the dose administered and the route of administration.

One of the first bronchodilators employed for the treatment of asthma was epinephrine. This direct-acting, non-selective agonist stimulates alpha and beta receptors.[48] Epinephrine (1:1000) is used commonly by the subcutaneous route for the treatment of severe asthma.[2] The total dose administered is usually no more than 1 mg given in three divided doses at 15- to 20-minute intervals. When administered subcutaneously, epinephrine is usually well tolerated by asthmatic patients with minimal changes in blood pressure or heart rate.[49] Because of efficient degradation in the body, epinephrine is not given by the oral route. Epinephrine is available in a more concen-

TABLE 2
THEOPHYLLINE DRUG INTERACTIONS

Increase Theophylline Level	*Reference #*
Cimetidine	32-34
Erythromycin	35-37
Propranolol	38
Allopurinol	39
Troleandomycin	40
Decrease Theophylline Level	*Reference #*
Phenobarbital	*41*
Phenytoin	*42*

trated solution (1:1000) as an over-the-counter aerosol.

Isoproterenol is one of the most potent bronchodilators available today. This catecholamine is a potent nonselective agonist at both beta receptors.[48] Because of isoproterenol's susceptibility to enzymatic degradation, the drug is not given to asthmatics orally.[48] When administered by inhalation, the onset of action occurs within minutes and the duration of action can vary from 30 minutes to two hours. Numerous formulations of isoproterenol in varying concentrations exist. Its short duration of action and the availability of more receptor selective agents, however, has led to a reduction in its use.

Isoetharine was one of the first selective beta agonists introduced. Isoetharine is less potent than isoproterenol; however, it is a more selective beta-2 stimulant.[50] Unfortunately, isoetharine causes tachycardia, nervousness and many of the other unpleasant reactions observed with isoproterenol.[51] The effective duration of action is approximately one to three hours when administered by inhalation. Although it is less susceptible to enzymatic degradation than isoproterenol, it is still administered by inhalation only in the United States.

Metaproterenol is a selective beta-2 agonist that is available under the name Orciprenaline in Europe. Metaproterenol is less potent than isoproterenol.[52] Unlike epinephrine and isoproterenol, metaproterenol is classified as a resorcinol.[48] This structural difference confers good oral bioavailability characteristics upon this drug.

The duration of action of metaproterenol is longer than isoproterenol and isoetharine; however, it is shorter than terbutaline and albuterol.[53, 54] When administered orally, 40-80 mg of the drug is generally given in four divided doses daily.

Terbutaline resembles metaproterenol in being classified as a selective beta-2 resorcinol. The drug differs from metaproterenol by being more potent and longer acting.[54, 55] At this time, subcutaneous, oral and inhaled formulations are available in the United States. Typically, terbutaline is given three to four times a day by the oral route. Tremor, agitation and nervousness can be associated with terbutaline use. Patient tolerance improves when the therapy is initiated at a lower dose. Like other beta stimulants, these effects are more prominent when the drug is given orally.

Albuterol is the newest selective beta-2 agonist to be released in this country. This agent has been available for years in Europe under the name Salbutamol. Albuterol is a potent agent whose structure differs slightly from terbutaline.[47] It is classified as a saligenin. Like terbutaline and metaproterenol, this agent demonstrates good bioavailability and is available in this country for both oral and inhaled administration. Typically 8 mg to 16 mg of albuterol are administered in three or four divided daily doses. Receptor specificity is very high for this agent. With higher doses, however, unwanted cardiac and neuromuscular effects become apparent.[56]

CORTICOSTEROIDS

Corticosteroids are used for acute and chronic management of patients with both extrinsic and intrinsic asthma. Detailed explanations can be provided for the pharmacological effects of steroids at the cellular level.[57, 58] Despite this fact, the precise mechanism of steroid action in asthma is unknown. Several potent corticosteroids are available for use in asthma. These drugs differ from each other in serum half life and biological duration of action, degree of mineralocorticoid activity, and potency.[57, 58] Generally, steroids that possess a biological half life of 12-36 hours are preferred for use in asthma.[59]

A general principle governing the use of steroids in asthmatic patients is that the smallest effective dose be used for the shortest period of time. Because of the limited number of methodologically sound studies, the appropriate dose and duration of steroid is unknown.[60-66] Methylprednisolone is commonly selected for use in doses that range from 20 mg to 125 mg four times daily. If the patient is hospitalized, the intravenous route should be selected for steroid administration.

The appropriate steroid dose is widely debated and no general consensus presently exists. A major factor that influences the aggressiveness with which initial therapy is undertaken is a history of prior chronic oral steroid ingestion. These patients require aggressive therapy not only for their pulmonary disease but, also, because of the possible preexisting adrenal suppression. The duration of intravenous steroid therapy is usually governed by the response of the patient to therapy. The use of chronic oral steroid therapy is governed by the patient's responsiveness to intravenous drug therapy and the history of prior steroid ingestion. If chronic oral steroid therapy is prescribed, the potential for adrenal suppression must be recognized. The use of alternate-day dosing can significantly reduce the number and severity of long-term steroid complications.

Recently, a potent inhaled corticosteroid, beclomethasone, has become available for chronic therapy. Beclomethasone is very potent when inhaled and much less effective when given by the oral route.[67] In patients maintained on low corticosteroid dosage it is often possible to convert to topical beclomethasone therapy.[68, 69] In patients taking larger oral doses, the topical therapy will often enable the patient to reduce the oral dose and minimize the dose-related complications. Beclomethasone is usually administered three to four times daily in a total daily dose of 400 mcg. The most troublesome problem with beclomethasone is the occurrence of oral candidiasis.[69, 70] This complication can usually be minimized by encouraging good oral hygiene and proper technique with the steroid inhaler. If the candidiasis persists, discontinuation of therapy and/or a short course of a topical antifungal agent frequently will be helpful. Epistaxis and nasal furunculosis are occasionally seen complications.

ANTIMUSCARINICS

The use of the antimuscarinic agents in asthmatic patients dates back to the 16th century.[71] Antimuscarinic drugs are known to competitively antagonize the effect of acetylcholine and, hence, the acetylcholine-mediated bronchoconstriction.[72] The mechanism of acetylcholine-induced bronchoconstriction involves the formation of cyclic guanosine-3′-5′-monophosphate (cGMP).[46] Atropine and ipratropium are two antimuscarinics that have been widely studied recently.[73-75] Because these drugs are administered by inhalation, tachycardia, urinary retention, constipation and other unpleasant antimuscarinic effects are avoided. The onset of action is slower than with most beta agonists; the duration of action, however, is comparable to the newer beta agonists. Although atropine has been available for years, a commercial formulation does not exist that can be conveniently administered by direct inhalation. For this reason, extemporaneous solutions of atropine must be prepared for administration. Investigationally, atropine (1%) is usually administered by inhalation four to six times daily in a dose of 0.05-0.1 mg/kg. Ipratropium is not available in the United States at this time. However, the drug has been extensively studied elsewhere. The recommended prophylactic inhaled dose of ipratropium is 20 μg to 40 μg administered three times daily. The usefulness of antimuscarinics like atropine and ipratropium is no longer in question. However, their eventual role in the treatment of asthma is not well defined at this time.

CROMOLYN SODIUM

Cromolyn sodium was introduced in this country in 1973 as a prophylactic antiasthmatic drug. Administration of cromolyn is believed to interfere with the influx of calcium ions, which prevents mast cell degranulation.[76] The usefulness of cromolyn appears to be greatest in young patients with extrinsic asthma.[77] Patients with intrinsic disease do not achieve the same success. Cromolyn, however, still represents a potential alternative in patients who are poorly controlled with optimal doses of conventional agents. Inhalation of cromolyn is occasionally associated with airway irritation.[76] To minimize airway irritation, inhalation of a sympathomimetic should be instituted prior to cromolyn therapy. Cromolyn's onset of effect is slow, requiring several weeks of therapy in some patients.[78] Therapy is commonly initiated with four daily doses. It is important that the correct technique be used to maximize the delivery of drug to peripheral airways and to maximize patient acceptance.[79]

GENERAL THERAPEUTIC PRINCIPLES

All drugs discussed in this article are used in the management of reactive airway disease. The selection of one or a combination of these drugs should be individualized for each patient. The principle factors that influence which drug a patient will receive are disease severity and patient tolerance.

Adequate hydration and oxygenation are supportive measures that should be part of every patient's management. There are two good reasons to anticipate fluid depletion in asthmatic patients: diuretic use and/or decreased fluid intake. In addition to fluid replacement, adequate oxygenation is necessary to correct existing acid-base disorders. Along with these supportive measures, management of severe asthma will inevitably involve the use of many drugs.

Initial therapy of acute asthma should begin with an inhaled or a parenteral sympathomimetic. The agent selected is generally a matter of personal preference. If the sympathomimetic is not successful after appropriate administration, more aggressive therapy should be pursued. Generally, the use of a theophylline preparation should be instituted. The loading dose should be calculated with a clear understanding of prior theophylline use. After the loading dose is administered, a constant intravenous infusion of theophylline should be initiated with the physician paying careful attention to those factors that may influence theophylline clearance or distribution. If the patient has not responded to supportive measures, sympathomimetics, and optimal theophylline therapy, corticosteroids should be seriously considered. The onset of action with any steroid is apt to require a minimum of six hours before any significant improvement.[63] Intensive steroid therapy should be instituted earlier in any patient who is chronically dependent on corticosteroids. Occasionally, patients will not respond despite all these measures and the use of mechanical respiratory assistance will be necessary.

The treatment of chronic asthma is accomplished with many of the same drugs used for acute management. Many patients are bothered only occasionally when exposed to particular allergens and intermittent therapy with an inhaled sympathomimetic will often suffice. More persistent respiratory distress requires more aggressive intervention and the use of a conventional or slow-release theophylline preparation should be considered.

The regimen selected should maintain adequate theophylline concentrations throughout the dosing interval and provide maximal patient compliance. In some patients, a combination of theophylline and beta agonist therapy can be tried.[80-82] In many situations, patient tolerance can be maximized by using an inhaled sympathomimetic instead of an oral agent. Unfortunately, a percentage of patients will still respond poorly to all of these measures and will require chronic oral or inhaled corticosteroid therapy.

Single-agent treatment with cromolyn may be appropriate in a special population of patients. The drug may also be combined with a sympathomimetic or a theophylline preparation. The problem of patient tolerance and the cost of cromolyn are factors that minimize the use of the product. Cromolyn clearly has no place in the acute management of asthma.

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Another UMKC Milestone

(Continued from page 711)

And this special issue of MISSOURI MEDICINE marks yet another milestone for us — UMKC medical school-faculty articles again are a feature of this publication.

The Board of Curators not only approved the concept of the UMKC School of Medicine's educational plan more than a decade ago for the several reasons outlined above, but additionally for the School's proposal of utilizing an exceptionally well-trained, highly professional, full-time and community faculty — without tenure — providing not only direct resources for education, but one providing service responsibilities to existing clinical facilities as well.

The articles in this issue attest to the soundness of that decision made more than a decade ago. Another milestone.

PETER B. GREENSPAN, D.O., *Kansas City*

The XY Woman

Two Cases of Complete Androgen Insensitivity

THE PRESENCE OF UNDESCENDED TESTICLES in an apparently normal woman was first described more than 150 years ago by Steglehner.[1] Since then, numerous reports and reviews of genetic men with female phenotypes have appeared in the medical literature. In 1953, Morris[2] published a classic review entitled "The Syndrome of Testicular Feminization in Male Pseudohermaphrodites," in which he presented two case histories of his own in addition to a review of the literature describing numerous examples of this unusual condition. Morris described the outstanding characteristics of testicular feminization syndrome as follows:

1. Female habitus with normal female fat deposits. In some cases, the body's build has a eunuchoid tendency with long extremities and large hands and feet.
2. Normal female breasts, often with a tendency to be "overdeveloped," although the nipples are sometimes juvenile.
3. Absent or scanty axillary and pubic hair in the majority of patients. There may be a slight amount of vulvar hair. The hair on the head is that of a normal woman without temporal recession, but the facial hair is more often absent as in a child.
4. Female external genitals. The labia may be underdeveloped, especially the labia minora. The clitoris is normal or small and the vagina ends blindly, but it is usually adequate for marital relations.
5. Absence of internal genitals except for rudimentary uterine and other anlage, sometimes including fallopian tubes or spermatic ducts. The gonads may be intra-abdominal or may lie along the course of the inguinal canal.
6. Gonads consisting largely of seminiferous tubules usually without spermatogenesis, but in most cases with a marked increase in interstitial cells. The picture is essentially that encountered in cases of undescended testicles. Tubular adenomas are frequent findings. In a few cases, there has been a considerable amount of fibrous stroma.
7. Hormonal assays in a limited number of cases suggest that these testes produce both estrogen and androgen. The pituitary gonadotropins have been elevated in some instances.

Conspicuously absent from Morris's criteria is the karyotype of XY chromosomes that were not readily available at the time of his work. Since Morris's publication, the medical literature has been replete with case histories and research pertaining to phenotypic women who are genetic men. Following is the case report of two such individuals.

CASE REPORT

RM and BLM are 18- and 16-year-old white sisters with the same mother and different fathers who were examined for evaluation of primary amenorrhea after apparently normal puberty and thelarche. Their past medical histories showed no abnormalities and their family histories were unavailable because the sisters are adopted. However, there is a third sister of the same mother who apparently menstruates normally. Both are well-developed, well-nourished and each sister is roughly 172 cm in height and weighs approximately 65 kg.

The author describes two cases of phenotypic women who had primary amenorrhea and were found to have intra-abdominal testicles and XY karyotypes. Both patients are examples of classic, complete androgen insensitivity or testicular feminization syndrome, either of which is one of many unusual and interesting instances of intersexuality and abnormal sexual development.

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Results of their general physical examinations are normal and they are unmistakably female in appearance. Both have rather abundant breasts but pale nipples, somewhat sparse body and pubic hair (BLM more so than RM), and each sister has a shallow, blind-ended vagina with absent typical Mullerian structures such as cervix, uterus and fallopian tubes. The sisters have grossly normal female external genitalia; however, slight hypoplasia of the labia minora is evident. Neither sister has an inguinal hernia. Pap smears of the blind vagina show no malignant cells, progesteronal predominant pattern and moderate estrogen affect.

Intravenous urography is negative for anomalies and pelvic sonography demonstrates the absence of uteri and adnexae. BLM's serum testosterone level is in the typical male range. Otherwise, all routine laboratory data are essentially normal.

Both sisters underwent diagnostic laparoscopy that clearly demonstrated complete absence of the Mullerian anatomy. Each patient had abdominal gonads that appeared to be infantile and showed no signs of ovulation. Several biopsy specimens were obtained from each sister and microscopically showed fibrous tissue with tubular structures quite suggestive of seminiferous tubules with intervening Leydig and Sertoli cells.

The sisters were karyotypes and the results were read as 46, XY, normal chromosomes. The conclusion, predicated upon the objective data collected, is that these sisters are phenotypic women and gonadal/genetic men. The diagnosis then is complete androgen insensitivity or testicular feminization syndrome. It is our opinion that these sisters satisfy the criteria of Morris in every instance.

Discussion

Complete androgen insensitivity is one of several abnormalities that are manifested by the so-called XY female.[3, 4] In this case, the gonads are normal testicles, but the defect occurs because of the deficiency or complete absence of cytosol receptors in the end organs for dihydrotestosterone, which results in failure of gene transcription and, thus, produces androgen inaction. Because these individuals' gonads are otherwise normal testicles that elaborate Mullerian inhibiting factor, no female internal genitalia develop. Since their androgen receptors are lacking, however, they fail to virilize.

As a consequence of this mechanism, the fetus develops as a phenotypic woman. These patients are male pseudohermaphrodites in that their genitals are opposite their gonads. The testicles of these patients tend to be cryptorchid and nodular, and the tubules within are immature. Although there may be some spermatogonia present, there is no spermatogenesis. The Sertoli cells and Leydig cells that are seen are often hyperplastic. The blind vagina is derived solely from the urogenital sinus and may be shallow, but it is usually functional sexually. Although the genetics of this syndrome are disputed, it is generally accepted that this is a maternal X-linked recessive disorder. Approximately one third of all cases are apparent new mutations. This entity accounts for approximately 10% of all cases of primary amenorrhea.

The management of these individuals is complicated but need not be difficult. Since these patients are routinely raised as women, their gender identification should remain as such. Disclosure that they are genetic men produces unnecessary emotional distress. Aside from being infertile, these patients should be regarded as entirely normal women. The physician who counsels these patients should refer to the testicles as gonads and should be primarily concerned with their removal postpubertally because of the extremely high neoplasia and malignancy rate that occurs within them. In rare instances, vaginoplasty is indicated to lengthen the rudimentary blind vagina to improve its function.

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> Every person is a salesman, whether good or poor at it; success or failure.
> This is equally true of the housewife, the business executive or the physician.
> It is only the wares that vary.
>
> W. E. Wooldridge
> —Duke of Pearson Creek

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Update in Treatment of Peptic Ulcer Disease

PEPTIC ULCER disease is an ongoing problem of considerable medical interest. Studies have suggested that one in 10 men and one in 25 women have ulcers at some time in their lives.[1] Prior to 1850, duodenal ulcers (DUs) were almost unknown although gastric ulcers (GUs) were well described.[2] During the last century, DUs became 10 times more common in men than GUs and reached nearly epidemic proportions.

In the past 20 years, there has been some evidence to suggest a decrease in the incidence of peptic ulcers as the hospitalization rate has greatly decreased and, likewise, surgery has decreased dramatically.[3] Mortality has decreased about 5% per year during the last decade.[4] These changes may reflect better treatment with a constant prevalence of disease. Perforations, which better reflect underlying prevalence than do hospitalization or surgery, have fallen off minimally.[3] Exhaustive surveillance studies done in 1963 to 1968 and repeated in 1978 and 1979 in Copenhagen failed to show any change in incidence.[1]

ENVIRONMENTAL FACTORS

Factors attributed to promoting ulcer disease include smoking, alcohol, analgesic use, diet and stress. Causative roles for each of these have been debated, but attention to these habits is worthwhile when deciding on the treatment of ulcer disease.

Smoking is the most clearly proven factor contributing to peptic ulcer disease. Male and female cigarette smokers are twice as likely to develop ulcers, both gastric and duodenal, as nonsmokers.[5] Smokers' ulcers heal less well than non-smokers regardless of therapy.[6] Once healed, the smoker is more likely to develop a new ulcer.[7] Evidence exists that even temporary cessation of smoking will help to heal ulcers. Smoking does not increase acid secretion, but it does inhibit pancreatic bicarbonate (HCO_3) excretion[8] and increase pyloric reflux.[5] These mechanisms may contribute to ulcer genesis. Clearly, stopping smoking is worthwhile.

Aspirin (ASA) is the other environmental agent shown to cause ulcers. The association is strongest for gastric ulcers. This is well documented in the ASA myocardial infarction patients study.[9] Patients with rheumatoid arthritis have demonstrated a 25% incidence of GUs in those taking 3 grains or more of aspirin per day. This incidence was not influenced by whether the aspirin was buffered. Enteric coated aspirin appears somewhat safer, resulting in a 6% incidence of ulcers.[10] Healing may occur with treatment and continued ingestion of ASA.[11] No association of aspirin and DUs is proven. Bleeding from both DUs and GUs is more likely in patients taking aspirin. Nonsteroidal anti-inflammatory drugs cause fewer symptoms and less occult blood loss, but all have been associated with gastric mucosal injury.[12] Cortiosteroids seem to be a small but definite cause of peptic ulcers and bleeding, increasing the relative risk by twofold.[13]

Though an early study showed an increase in later development of ulcers in college students who drink coffee,[14] most studies fail to show a relationship between current use of coffee and the incidence of ulcers.[5] Both decaffeinated and caffeinated coffee stimulate acid secretion, so it seems prudent to limit their use to meal time. However, their total elimination seems unwarranted.[1]

Persons with alcoholic cirrhosis have an increased incidence of ulcers.[15] "Binge drinking" causes gastritis, and gastritis is shown to be associated with undiluted alcoholic beverages. There is, however, no evidence that alcohol per se increases the risk of developing ulcers,[5] impedes healing, or increases the probability of recurrence.[16] Hence, limitation of alcohol ingestion to modest amounts of mixed drinks seems warranted, but total proscription does not seem justified.

No component of diet has been shown to cause

Treatment of peptic ulcer diseases requires modification of environmental factors, use of a variety of new medications, and occasional referral for surgical management.

Progress has been made in understanding the course and a treatment of acute ulcer disease. The author discusses the proliferation of medications and new surgical techniques that offer encouraging new treatment modalities.

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ulcers, whether spicy foods, citrus, or other acid substances. Restricted, bland, or otherwise modified diets have not been proven to facilitate healing.[17] Milk stimulates rebound acid secretion so it may be harmful.[18] However, few studies are available that critically study the use of diet in peptic disease, and it remains conceivable that some alteration in diet in the course of industrialization has contributed to the increased incidence of ulcers in this century.

Stress is an obvious candidate for causing ulcer disease. The incidence of perforated ulcers increased dramatically in London during World War II at the onset of bombings.[19] Psychological testing in United States Army recruits coupled with evaluation of serum pepsinogen levels accurately predicted those at high risk for ulcers.[20] A more recent study showed profound hypersecretion of acid, basal and stimulated, in two individuals who had gastric ulcers related to catastrophic life stresses.[21] In both instances, resolution of the stress situations allowed healing of the ulcers and a concomitant return to normal acid secretion. Another recent study with careful selection of controls demonstrated significantly more neuroticism among men with gastric ulcers. In women, no difference was apparent.[22]

In spite of these kinds of strong evidence about the role of stress in ulcer disease, no systematic research has been done to determine the possibility of modifying reactions to stress in the treatment of active ulcers or in the prevention of recurrent ulcers.[23] When treating individual patients, it seems worthwhile to question them in this regard. If there does seem to be a significant role of stress in the development of their disease, measures should be taken to reduce the stress. Tricyclic antidepressants may prove useful in treatment of peptic ulcers, but the basis of efficacy may be anticholinergic rather than psychotropic.[24]

MEDICAL THERAPY

Medications in the treatment of ulcers are of two major types. There are those that reduce acidity and those that are "cytoprotective," increasing the mucosal resistance.

Antacids have been a mainstay of ulcer therapy, but only relatively recently has their efficacy been shown. They produce a 75% healing rate, which is as good as any of the newer agents.[25] They also seem to be of some value in the treatment of gastric as well as duodenal ulcers.[12] The primary problem is the amount and frequency of medication that is required. For DUs, 30-cc doses at one hour and three hours after meals and at bedtime are indicated. For GUs, half the dose suffices, but it should be taken at the same time frequency. Cost is comparable to that of the newer agents. Interesting discoveries in regard to antacids are that although proven to promote healing, they are no better than placebos in relieving symptoms.[25] Evidence also exists that they impede the absorption of cimetidine, so these medications should not be given simultaneously.[26] Prior differences in neutralizing capacity and salt content among major brands have largely been eliminated so that, for example, Maalox TC, Mylanta II, and Gelusil II are now very comparable preparations in all these regards as well as in cost.[27] There are some slight differences in the relative concentration of magnesium and aluminum so that Mylanta II is somewhat more likely to cause diarrhea, and Maalox TC is somewhat more likely to cause constipation, but these differences are very small.

The real revolution in ulcer therapy has occurred with the introduction of cimetidien (Tagamet), the first widely used H_2 antagonist. Cimetidine has been shown to be as effective as antacids, but it can be given four times per day with meals and at bedtime at a dose of 300 mg.[28] It provides clear cut efficacy in treatment of DUs and it is the only drug that is currently recognized by the FDA as active in the treatment of GUs.[29] Less well substantiated is its value in treating gastritis and reflux esophagitis.[30] It is probably not effective in treating pancreatitis[31] or acute upper GI bleeding[32] or in preventing stress ulcer bleeding.[33]

Cimetidine has been remarkably safe and free of causing side effects[34] considering the 20 million people who have been treated with it, making it currently the most widely used drug in the United States. Side effects occurring include mental confusion, primarily in the elderly or those with renal failure; diarrhea; and occasional nausea and vomiting.[35] Neutropenia is rare and documented in only two cases as the only cause implicated.[36] There is one case of aplastic anemia.[37] A side effect of some concern is gynecomastia attributed to its antiandrogenic effect.[38] Less well established is a decrease in libido and a decrease in spermatogenesis.[39] Elevation of serum transaminase and serum creatinine are not unusual,[40] but only rare cases of hepatitis and interstitial nephritis have been reported.

There exists concern over gastric cancer.[41] Nitroso-cimetidine is chemically analogous to established carcinogens, but extensive toxicity studies have failed to show any relationship. Another concern is that hypochlorhydria may foster bacterial overgrowth, also promoting the production of carcinogenic nitrosamines.[42] This concern, however, applies not only to acid lowering antiulcer drugs but also to surgery for peptic ulcers. Hypochlorhydria may also be predisposed to gastrointestinal infection such as traveler's diarrhea.

Drug interactions pose another significant complicating consideration in the use of cimetidine. It inhibits microsomal drug metabolism in the liver, thereby reducing the clearance of warfarin, diazepam, chlordiazepoxide, phenytoin, theophylline, and propanolol.[43] Caution must be exercised in the concomitant use of these medications.

Ranitidine, recently released as "Zantac" by Galaxo, is an H_2 blocker that may replace cimetidine.[44] It is already widely used in Europe. The imidazole ring of cimetidine is replaced chemically by a very different furan ring. Its efficacy in suppression of acid in treatment of duodenal ulcers clearly equals or exceeds cimetidine.[45] It is equally effective in preventing recurrence of DUs.[46] Notable advantages include longer efficacy (150 mg twice a day suffices) and decreased side effects. So far, it has not been found to cause mental confusion, to raise serum creatinine or transaminase levels, or to alter significantly hepatic metabolism of drugs. In addition, it rarely causes gynecomastia.

For those patients with chronic renal failure who are receiving medications metabolized by the liver and for those developing mental confusion, gynecomastia, or other side effects of cimetidine, ranitidine seems preferable.[47] In other situations, the choice is less clear. Cimetidine has the advantage of vastly more experience allowing more certain detection of unusual or rare side effects.[48] In addition, cimetidine is likely to be somewhat less expensive if both drugs are taken for the same length of time.

The other major category of medication available for treatment of ulcer disease is a cytoprotective, a locally active agent. Sucralfate is currently the only such agent available in the United States. There is extensive prior experience in Japan showing efficacy about equal to that of cimetidine in the treatment of DUs.[49] It may be effective for GUs although studies are limited.[50, 51] Its efficacy in gastritis, esophagitis, GI bleeding and postoperative recurrent ulcers is untested.

Sucralfate is the salt of sucrose octasulfate. Its antacid effect is insignificant. The negatively charged sucralfate molecules preferentially bind to the positive albumin, fibrinogen, damaged mucosal cell and dead leukocyte proteins in the ulcer base. Coating the base, it seems to prevent further acid and pepsin damage and allows healing.[52] It also binds bile salts that may prevent bile acid-induced mucosal injury.

Sucralfate is an attractive treatment because there is minimal absorption and no systematic toxicity. Constipation is the only common side effect. Drug interactions include a 38% decrease in bio-availability of simultaneously administered dilantin. No interference has been demonstrated for digoxin, quinidine or propanolol in animals.[53] The current cost is close to that of cimetidine. A minimal negative consideration is the timing of the dosage — a full hour before meals to allow coating of the ulcer prior to taking food. This may impair compliance.

Colloidal bismuth subcitrate (Denol) acts similarly to sucralfate and is of proven efficacy in treating duodenal ulcers.[54] It is widely used in Europe although it is not available here. Of interest is its demonstrated efficacy in the treatment of gastric ulcers. A Dutch study showed a 61% GU healing rate (17 of 28) not statistically different from the 43% rate (13 of 30) for cimetidine but clearly superior to the 18% rate (4 of 22) placebo healing rate.[55]

Treatment Failure and Relapse

Generally, therapy for acute ulcers is effective and there is a variety of reasonable regimens available. The more perplexing issues involve what to do with the 10% to 20% who fail to respond to one of the current regimens and what to do about recurrent ulcers.

When an ulcer fails to heal, one should first review compliance with suggested medication and lifestyle changes. Next, one should exclude Zollinger-Ellison syndrome by evaluating a fasting gastrin and hyperparathyroidism by a serum calcium. Thereafter, one may add either an additional agent (perhaps sucralfate or anticholinergics to cimetidine) or switch to another agent (for example, ranitidine instead of cimetidine). Both strategies have been shown anecdotally, or in small groups of cases, to be effective but no extensive evaluations have been carried out.[56]

A recent extensive endoscopic evaluation prompted by drug studies has revealed a very high recurrence rate for ulcers after they are originally healed. This is as many as 80% a year in DUs whether healing was by placebo, antacids or cimetidine.[57] The recurrences are frequently asymptomatic. A further complicating fact is that pain may recur in the absence of recurrent ulcers.[58] It is of interest to know that there is an apparent lower rate of recurrence demonstrated after treatment with Denol (CBS).[59, 60] A similar trend is apparent in a decrease in early relapse rate shown in patients who have been treated with sucralfate.[61] The importance of these findings and their reproducibility remain to be established.

Recurrence can be prevented in 80% of cases by continued maintenance on cimetidine 300 mg to 400 mg (hs or bid).[57] So far, however, when the medication is stopped, the prior high risk of recurrence resumes. The proper role of maintenance treatment is debatable. Most agree that unless the first presentation is life threatening (due to obstruction, bleeding or perforation), one relapse is to be allowed. About 25% of patients will have no relapse. After one relapse, many physicians recommend maintenance therapy, but others specify two relapses per year. Clearly, there is room for individual judgement.

Prevention of recurrence is an area of great concern and will be one of continued investigation. One hope is that a topical agent such as sucralfate, which has no systemic side effects, may prove effective. Many physicians are uncomfortable with the thought of maintaining patients for many years on agents that have systemic effects such as the H_2 blockers. Even more optimal would be dietary or lifestyle modifications that significantly reduce the recurrence rate.

Surgical Management

There has been little change in recent years in regard to surgical management of hemorrhage, perforation or gastric outlet obstruction. General opinion is that repeated treatment-failure patients and those who have a relapse while receiving maintenance therapy merit surgical management. The caveat is that relapse must be documented endoscopically because of the significant incidence of recurrent pain without ulcer recurrence. Those patients having pain without ulcers also have pain after surgery.[1]

The consensus is that parietal cell vagotomy is the optimal elective surgical procedure.[62] In this operation only, the fibers to the vagus responsible for acid secretion are severed and those responsible for gastric emptying are maintained. Pyloroplasty is not required as gastric emptying is maintained.

The principal advantage of this type of surgery is the minimal operative mortality of 0.3% and a very low incidence of dumping and other postoperative metabolic complications that are frequently seen after antrectomy and pyloroplasty.[63] The principal disadvantage is an average recurrence rate ranging from 5% to 15%. Of similar concern is an even higher recurrence rate in operations performed by those with limited experience. Because of these considerations and the general decline in ulcer surgery, the operation has been slow to be accepted in the United States, although recently trained surgeons are making it increasingly available.

In summary, great progress has been made in understanding the course and acute treatment of ulcer disease. A strategy to manage refractory and recurrent ulcers is evolving. The proliferation of medications and new surgical techniques offer encouraging new treatment modalities, but observance of basic principles of management is essential.

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Honesty is the best policy because it has so little competition. — Arnold Glasow

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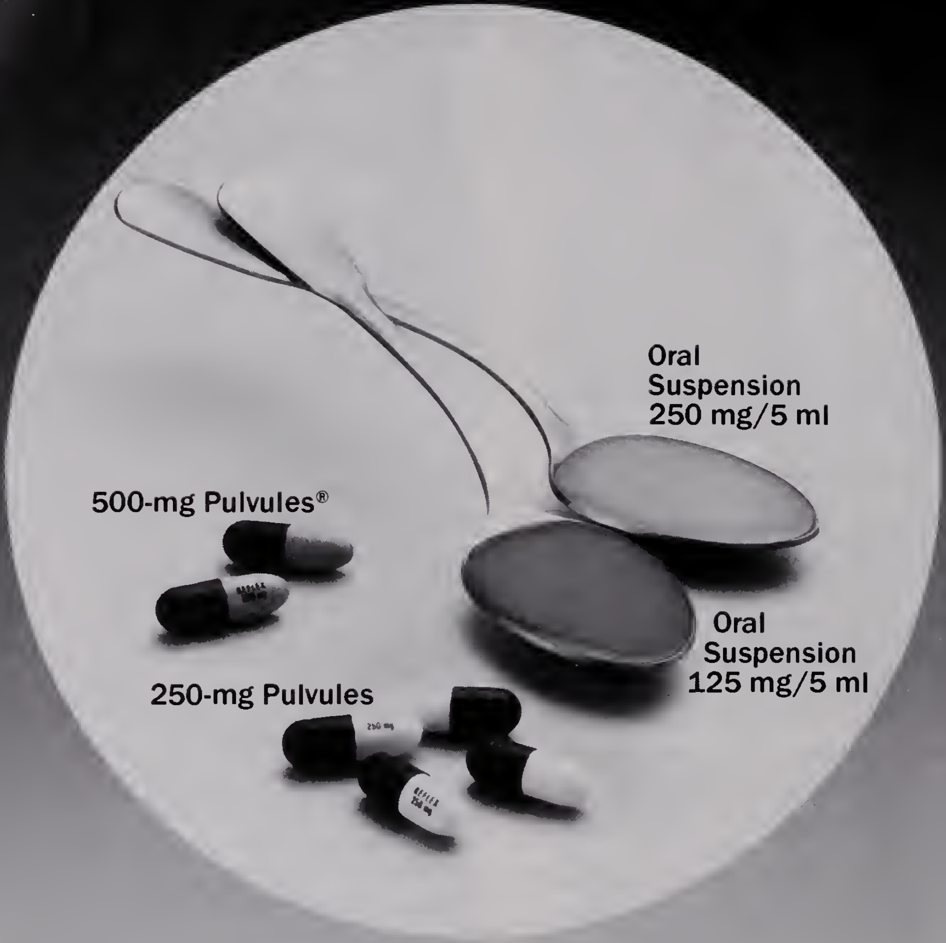
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President's Message

James M. Stokes, M.D.
St. Louis

As I stated on this page in the October issue of Missouri Medicine, *I am devoting several President's Pages to further explanation of some of the emerging alternate systems of medical care delivery to the practicing physician.*

The following article was written by Dr. E. Berger, director of the St. Louis Labor Health Institute, which is the oldest and perhaps the largest preferred provider organization combined with health maintenance organizations created in 1953 by Mr. Harold Gibbons with Dr. Berger and former Nobel prize winner, Evarts Graham, M.D.

HMO and Prepaid Medical Care — LHI

The St. Louis Labor Health Institute (LHI) is a prepaid group practice plan (HMO) that had its inception in 1953 sponsored by Teamsters Local Union 688 and some 350 employer groups. It was and is one of the pioneer groups in the United States for complete health care and is a charter member of the Group Health Association of America. It is not-for-profit and serves the health needs of 25,000 members.

The Labor Health Institute is located in mid-town near St. Louis University Medical School in Council Plaza. The medical facility occupies one floor of 36,000 sq. ft. offering complete medical, surgical and dental services. Patients are scheduled daily but may be received without prior appointment on a 9 AM to 6 PM basis daily. Emergency services are available by physicians and dentists daily 24 hours a day in addition to scheduled appointments and the major sub-specialties. The specialties of surgery, obstetrics, gynecology, orthopedic, urology, ENT, dermatology and neurology are provided. Referrals can be made to any service and are frequently made to both medical university staffs in St. Louis. Other interests provide glasses, hearing aid and dental apparatus as indicated.

The St. Louis Health Institute is accredited by the Board of Ambulatory Health Care, Inc. and recently was re-accredited for three years. It does not use federal funds but, in the future, such funds may be necessary for federal partial payment in the age of Medicare patients. Most of the professional staff members are board certified in the specialties. Thirty-seven physicians are members of either Washington University Medical School or St. Louis University Medical School Faculty.

Hospitalization is covered through contract with Blue Cross, but patient expenses for hospitalizations are 10% less than private care patients. Efforts to reduce cost of medical care by providing on-site laboratory x-ray and pre-admission examinations have reduced expenses that would otherwise be duplicated in the hospitals. Outpatient emergency services are provided by physicians on call in all specialties and through emergency room staffs in outlying Missouri and Illinois utilizing free standing medical care units as a substitute for more expensive hospital emergency room charges. Members are permitted to be admitted to the hospital by physicians not employed by the Labor Health Institute and consultations may be made to any physician in a sub-specialty. Statistics during the fiscal year 1983 reveal some of the cost savings provided under a complete HMO program. The average length of stay in

(Continued on next page)

the hospital by LHI physicians was 5.48 days and by non-LHI physicians the length of stay was 7.11 days. Hospital days per 1,000 members were more than 590 days compared to Blue Cross preferred plans in which they were 856 days per 1,000 patients. Hospital costs per 1,000 members of the HMO program were $232,921.00 compared to a cost of $330,096.00 for non-panel physicians.

Financing

Initially, only working members were covered through collective bargaining between employers and union representatives. Funds are administered by the Board of the Labor Health Institute and are separate from any union funds, a valuable insulation from any other activities of employers or unions. The funds are used to finance the operation of the medical center, the consultants, and hospitalization under Blue Cross. Members pay only $5.00 per day for hospital bed rate.

The emergence of HMO facilities and today's medical care has been preceeded by more than 20 years in the original major HMO system such as labor health institute, Kaiser Permanente Foundation and Group Health Insurance of New York. The competition among commercial medical firms seeking large patient panels at reduced hospital costs and reduced physician costs will be a major challenge and rapidly changing area in American medicine in the next decade.

E. Berger, M.D.
Director

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MSMA Auxiliary

The MSMA Auxiliary works year-round for both the Missouri State Medical Foundation and the AMA-ERF. I am pleased to introduce Mrs. Charles W. Barbee of Columbia, Fourth Vice-President and AMA-ERF Chairman, as guest columnist. She has several special suggestions for you.

Mrs. Richard Bowles
President

AMA-ERF . . . AND CHRISTMAS!

There is an old Chinese saying that each generation builds a road for the next generation. The road to and through medicine was well-built for us, and it is incumbent upon us to build our road for the next generation.

Unfortunately, the road is a "TOLLWAY." It requires constant funding for research projects, quality faculty, library materials, equipment, supplies and basic operating costs. In addition, many medical students need funds to help them meet their expenses.

The American Medical Association first constructed this road in 1950 with the establishment of the American Medical Education Fund, later to become the American Medical Association Education and Research Fund (AMA-ERF). Through the generosity of physicians, spouses and friends of medicine, it has been a well-kept road — with more than $38 million in gifts to medical schools since 1950 through direct contributions of physicians and fund-raising efforts of the auxiliaries.

We in medicine know we must follow the motto of the Army: "We take care of our own." The tenor of the times dictates the necessity for the medical community to "look to thyself" to see that the commitment to excellence is continued. Missouri has met that commitment well, with a 1983-1984 total contribution of $26,797.54. With increasing costs, of course, we need to increase our contributions and our efforts. Missouri ranked 25th among the states in monies raised by the medical associations and auxiliaries last year through the AMA-ERF.

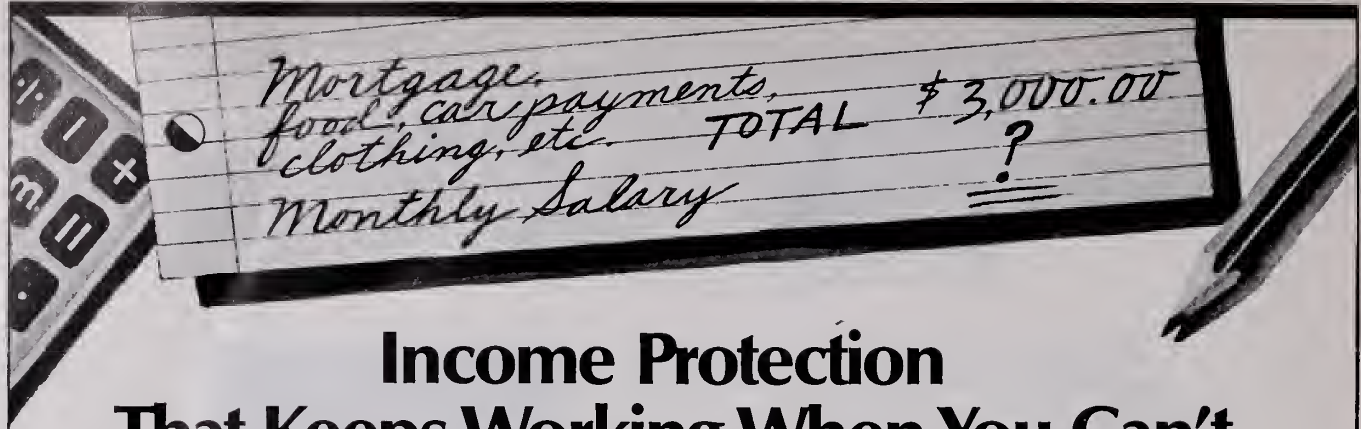
We believe this to be one of the few organizations that absolutely assures you that 100% of your gift goes to the purpose that you designate — the medical school of your choice, either for its Excellence Fund or for the Medical Student Assistance Fund. No operating costs or administrative costs or fund-raising costs are taken from your contribution.

As the season of giving and sharing approaches, please remember the AMA-ERF. A donation to a physician's alma mater in his or her name is a caring and significant way to say "Thank You" or "Congratulations" or "Get Well" or "Best Wishes for the New Year."

The *Holiday Sharing Card* offered through the Auxiliary is an easy way to handle the remembrances of the season. With one contribution, your name is included on a greeting card that is mailed to everyone in your medical community, and everything is done for you — production, printing, personal hand-addressed envelopes and mailing. Also it's tax-deductible! Please support this project when you are approached by your local county auxiliary.

All of these efforts add up to more than $1.5 million each year for medical education and research. We all know these dollars are needed. Oscar Wilde once said, in his double-edged way, "When you are young, you think money is the most important thing in life. When you are old, you know it is." Medical school deans know it best!

Mrs. Charles W. Barbee
AMA-ERF Chairman
MSMA Auxiliary



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EDWARD G. CORCORAN, *Program Specialist*
Missouri Department of Mental Health

Misuse, Abuse and Diversion of Prescription Drugs

A Missouri Response

A MIDDLE-AGED WOMAN you don't know comes into your office. She says she is suffering from breast cancer. Your examination shows that she does indeed have a breast tumor. During your ensuing conversation, the woman tells you she is in great pain. Moreover, she says, the only drug that has effectively relieved her pain in the past is Dilaudid. She asks you for a prescription.

Meanwhile, the woman's daughter, who has accompanied her mother on the visit, mentions that she suffers from terrible migraine headaches. She also asks you for a prescription — for Demerol.

What would you do in this situation? Write the prescriptions?

Several doctors in the rural areas around St. Louis did. Only later was it discovered that these women were part of a drug-dealing ring based in Jefferson County.

The physicians who wrote the requested prescriptions became — unwittingly — a part of the illicit-drug supply chain in St. Louis.

Prescription Drug Abuse

Nationwide, the Drug Enforcement Administration (DEA) estimates that 3% of the population misuse or abuse prescription drugs. About 150,000 of these people are Missourians.

While drug abusers in the past turned to prescription drugs only when "street" drugs were scarce, today prescription drugs are actually becoming the preferred alternative. The American Medical Association's drug-abuse unit notes that because of "predictable potency, cheaper price and lighter penalties for use," drug abusers are more actively seeking prescription drugs instead of so-called "street" drugs.[1]

The consequences of prescription drug misuse and abuse are severe, according to the DEA. The public and often the government have traditionally focused attention on the use of marijuana, heroin and cocaine. Yet data gathered by the DEA indicate that as many as 75% of those drug abusers who die or are hospitalized as a result of drug overdose are abusing prescription drugs. The abuse of these drugs has been called America's "closet drug abuse problem."

Sources of Supply

There are a number of ways by which prescription drugs enter the "street" market. Among them are clandestine domestic manufacturers, contraband from foreign countries, thefts from hospitals, and altered or forged prescriptions.

Another more disturbing source of supply for illegal drugs are physicians and other licensed practitioners who illegally prescribe the drugs.

These doctors fall into four categories, identified as the "Four D's" — dishonest, dated, disabled, or deceived.

The "dishonest" physicians make up a small group who, nevertheless, supply the illicit drug market with enormous quantities of drugs.

Often, these practitioners do their illegal "scriptwriting" for financial gain. They either provide the drugs directly to the abuser or indirectly through the drug trafficking network and individual dealers.

Between July 1, 1972, and June 30, 1984, the Missouri Bureau of Narcotics and Dangerous Drugs (BNDD) took action against 367 Missouri physicians for their prescription-writing practices. Twenty-four of these physicians faced felony convictions, and 343 had their controlled-substances authorization curtailed or suspended.

During the same period, according to BNDD statistics, 150 other DEA registrants — including veterinarians, dentists and pharmacists — faced similar action. These so-called "dishonest" registrants made up about 3% of the 16,000 practitioners registered with the DEA in Missouri.

The "dated" physician is one who has not "kept up" on his pharmacology and, thus, misprescribes drugs for various conditions. The dated doctor may also be naive in regard to the realities of today's drug culture.

1980 Survey of 'In-Demand' Controlled Substances

Product	*Typical Retail Cost*	*"Street Price"*
Talwin, used in "T's and blues"[1]	26¢/tablet	$10-$12/set (One tablet each of Talwin and Pyribenzamine (tripelennamine))
Dilaudid, 4 mg	29¢/tablet	$45-$50/tablet
Preludin (white)	30¢/tablet	$10-$12/tablet
Quaalude, 300 mg[2]	33¢/tablet	$4-$8/tablet
Didrex, 50 mg	19¢/tablet	$4-$6/tablet
Dexedrine, 15 mg	16¢/capsule	$3-$4/tablet
Cocaine	$49/ounce	$2,000-$3,000/ounce

1. Talwin was reformulated by the manufacturer in 1983 as Talwin Nx (antagonist/Naloxone added)
2. Quaalude was moved to Schedule I by the federal government. Manufacturer voluntarily ceased production in 1984.

This chart illustrates one of the factors behind the continuing problem of prescription drug diversion. Dealers who obtain these drugs stand to make a substantial profit, and drug users are willing to pay exorbitant prices for drugs on the "street" market.

The prices for various drugs were obtained in a 1980 survey from random pharmacies in Missouri. They are compared to corresponding "street" prices for the same drugs.

The "disabled" physician is one who is an alcoholic or abuses drugs himself. Drug dealers and users are often able to take advantage of such a physician or may even "strike a deal" with him in order to obtain the desired controlled substances.

In the final category, which includes many of Missouri's licensed health care professionals, are the "deceived" physicians. Due to their lack of knowledge or awareness, these physicians can be duped into prescribing drugs for drug dealers or abusers posing as patients. The ruses used by these "con artists," as evidenced by the two women in the opening paragraphs of this article, are varied and clever.

Even this group of physicians, however, represents a significant contribution to the overall drug problem in Missouri.

The Missouri Task Force

The Missouri Task Force on Misuse, Abuse and Diversion of Prescription Drugs was formed in 1981 to determine the nature and configuration of Missouri's prescription drug abuse problem. Made up of representatives from Missouri licensing boards (including healing arts, dental, pharmacy and veterinary), state professional associations, the BNDD, the Division of Alcohol and Drug Abuse, and others, the Task Force also acts as an information clearinghouse and a means of communication among the component members.

Task Force Guidelines

The Missouri Task Force operates under a set of guidelines that were drawn up at its inception. A listing of the guidelines follows.

The Task Force

— will not conduct activities that are more properly conducted by individual member agencies and boards;

— will not advocate additional control measures that would be likely to cause additional problems to legitimate prescription drug users, and/or that would not have a significant impact on the problem of abuse;

— believes that the problem of prescription drug abuse has been with us for a long time and that it will best be resolved through a steady process of comprehensive action rather than through a few dramatic actions;

— believes its role is that of sponsoring activities for professional information and awareness designed to prevent or minimize the inadvertent diversion of prescription drugs by professionals;

— believes that specific drugs are not the problem, but that the improper demand for drugs and deficiencies in the control system are the problem.

Task Force Programs and Projects

The Task Force sponsors a number of educational activities and projects designed to heighten the professional's awareness of Missouri's drug problem. These projects include the following:

1) *The "Scam of the Month" Project*. This is a

series of brief accounts of the ways professional patients improperly secure prescription drugs from physicians and other licensed practitioners. The stories are designed for use in professional journals and appear each month in the "Progress Notes" insert in MISSOURI MEDICINE.

2) *Professional Awareness Program*. Sixty-five specially trained health care professionals are available to speak to local organizations or hospital groups.

3) *Alert Posters*. These posters, suitable for office display, outline Missouri law against persons intentionally deceiving a prescriber or dispenser of drugs. They are available from professional societies.

4) *"Overview and Syllabus."* These listings of pertinent prescription drug abuse information, written for various professions, are available from licensing boards. Professions addressed include physicians, dentists, veterinarians and pharmacists.

5) *Conferences and Seminars*. Members of the Task Force are available to present talks and/or materials at your meetings.

6) *AMA Committee Liaison*. The Task Force acts as a link between the AMA Informal Committee on Prescription Drug Abuse and those involved in the Missouri effort against prescription drug diversion.

Postscript

The Task Force on Misuse, Abuse and Diversion of Prescription Drugs believes that, given proper support and continuous cooperation of responsible regulatory boards, professional societies and government agencies, prescription drug abuse in Missouri can eventually be controlled.

It took an alert physician to put a halt to the activities of the women described in this article. A check of the "daughter's" driver's license revealed that the woman was using a false name and address.

This "scam" worked, in part, because the "mother" actually had breast cancer. She was able to visit as many as five to seven physicians on a rotating basis, using her condition to obtain drugs.

The Task Force cautions all physicians to be alert to patients who are unknown to them or who demonstrate behavior associated with drug abuse. Often, a check for positive identification or a verifying telephone call is sufficient to deter the "professional patient."

Above all, an awareness of the many ploys used by drug dealers and abusers to obtain "in-demand" controlled substances is the first step to bringing the problem of prescription drug abuse under control.

REFERENCES

1. *The Wall Street Journal*, "Doctors in California Selling Prescriptions Have Reason to Fear." Sept. 11, 1984, p. 1.

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MSMA Members Receive Physician's Recognition Award

Forty MSMA members qualified for the MSMA-AMA Physician's Recognition Award during the period of August, 1984.

The award is voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

Federico Adler, Kansas City
Carl E. Aulenbacher, Washington
Virgil R. Bleisch, St. Louis
John C. Callenbach, Kansas City
Mary C. Colglazier, Kansas City
Milamari A. D. Cunningham, Columbia
Pablo C. DeUngria, St. Louis
Fernando DelValle, St. Louis
Charles J. DiCecco, Chesterfield
William L. Drake, St. Louis
James B. Earnest, Kansas City
Alan H. Edelman, St. Louis
Joseph C. Edwards, St. Louis
Fernando Fernandez, St. Joseph
Jacob W. Fleming, Moberly
Floyd J. Freiden, Kansas City
Sigmund Gundle, Kansas City
Edward Gwin, Springfield
William P. Hamilton, St. Louis
Stephen L. Hantman, St. Louis
Samuel Krain, St. Louis
Robert H. Lund, St. Louis
Lynn R. A. McCanse, North Kansas City
Huseni E. Poonawala, Kansas City
Jim D. H. Reynolds, Kansas City
Kirk D. Ridley, Belton
Glennon S. Schaefer, St. Louis
Janardana N. Sharma, Kansas City
Richard H. Sinclair, Kansas City
Stephen G. Slocum, St. Louis
Kenneth R. Smith, St. Louis
Milo J. Spurgeon, Columbia
Alberto Suarez, Lee's Summit
Ashalatha R. Tatineny, Chesterfield
Sterling Theobald, St. Louis
Benesto F. Tumanut, Kansas City
Kumari A. Vijaya, Manchester
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NEWS About CME Events

The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in Missouri Medicine. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: **Weldon D. Webb, M.D., Director**

Nov. 12-16	Review for Certification Examination in Infection Control
Nov. 16-18	Missouri Ear, Nose and Throat Society Meeting
(1985)	
Feb. 6-8	Fifth National Conference on CAPD (Kansas City)
Mar. 1	Preceptor's Day
Mar. 2-3	Eighth Annual Family Practice Update Session

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
Contact: **Anita Herbst, Continuing Medical Education**

Oct. 12-13	Treatment of Headaches and Neck Pain (West Port Plaza, St. Louis)
Oct. 17-19	Fifth Annual Ultrasound Symposium: Special Imaging (Park Terrace Airport Hilton, St. Louis)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 362-7100
Contact: **Ronald G. Evens, M.D., Director**

Jan. 14	City-Wide Radiology Conference (St. Louis University)
Feb. 11	City-Wide Radiology Conference on "Digital Radiography"
Mar. 11	City-Wide Radiology Conference on "Interventional Radiology"
Apr. 8	Leroy Sante Lecture (St. Louis University)
May 13	City-Wide Radiology Conference on "MRI"

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: **Alta Bingham**

Dec. 6-8	The Heart 1984 (Alameda Plaza Hotel)
(1985)	
Jan. 26-Feb. 2	Traveling Medical Education Course (Steamboat Springs, Colo.)
Feb. 9-16	Traveling Medical Education Course (Cancun, Mexico)
Feb. 22-23	The Long Weekend* (Alameda Plaza Hotel)
Mar. 14-15	Current Management in Critical Care (Alameda Plaza Hotel)
Mar. 14-23	Traveling Medical Education Course (Maui, Hawaii)
Mar. 16-23	Traveling Medical Education Course (Copper Mountain, Colo.)
Apr. 19-20	The Long Weekend* (Alameda Plaza Hotel)
May 17-18	Emergency Medicine/Missouri Chapter. American College of Emergency Physicians (Hilton Plaza Inn)
May 24-25	Surgical Problems — The Old and The New (Alameda Plaza Hotel)
May 31-June 1	Sports Medicine/Physical Fitness Symposium (Weston Crown Center Hotel)

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
Contact: **Jan Johnston, Promoter Coordinator**

Nov. 29-30	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Dec. 13-14	Advanced Trauma Life Support
(1985)	
Jan. 20-26	Contemporary Issues in Obsterics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Feb. 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Feb. 21-22	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
Contact: Loretta Giacoletto, Office of CME

Dec. 7-8	Low Back and Sciatic Pain
(1985)	
Jan. 6-11	Practical Management of Infectious Diseases (Keystone, Colorado)
Jan. 10-16	Endocrine Aspects of Ovarian Dysfunction Syndromes (Puerto Vallarta, Mexico)
Feb. 7	St. Luke's Clinical Conference (St. Luke's Hospital)
Mar. 4-May 20	Internal Medicine Review (Monday Evenings)
Mar. 9	Industrial Injuries of the Hand
Mar. 18-20	Curable Cancers in Humans
Mar 29	Inflammatory Bowel Disease (St. Louis University)
Apr. 11-12	Care of the Aging Patient
Apr. 25-26	12th Annual Postgraduate Course in OB/GYN
May 2-4	WUMCAA Reunion '85
May 13-14	PNP Update

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FOR INFORMATION CONTACT: EUNICE GOLDSMITH, CONFERENCE COORDINATOR, PROVIDENCE MEMORIAL HOSPITAL, 2001 N. OREGON, EL PASO, TEXAS 79902, (915) 542-6699

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Introducing Our New MSMA Members

Bruce Adelman, M.D., 751 E. 63rd, #112, Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Adelman is a native of Detroit, Mich., received his preliminary education at the University of Michigan and his M.D. degree at Wayne State University in 1980. He specializes in anesthesiology.

David O. Barbe, M.D., 600 N. Busch, Mountain Grove 65711, has become a member of South Central Counties Medical Society. Dr. Barbe is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in family practice.

Gary L. Bassett, M.D., 206 W. Columbia, Farmington 63640, has become a member of Mineral Area Medical Society. Dr. Bassett is a native of Colusa, Calif., received his preliminary education at Oregon College and his M.D. degree at the University of Oregon in 1977. He specializes in psychiatry.

Marvin D. Combs, D.O., 304 E. Daniel, Albany 64402, has become a member of Northwest Missouri Medical Society. Dr. Combs is a native of Worth, received his preliminary education at Northwest Missouri State University and his D.O. degree at Kansas City College of Osteopathy in 1967. He specializes in general practice.

Anastacia Espanol Fabie, M.D., 514 Pine, Cabool 65689, has become a member of South Central Counties Medical Society. Dr. Fabie is a native of Tarlac, Philippines, received her preliminary education at the University of Philippines and her M.D. degree at the University of the Philippines in 1948. She specializes in internal medicine.

Stephen M. Gordon, D.O., 2929 Baltimore, Kansas City 64114, has become a member of Jackson County Medical Society. Dr. Gordon is a native of Kansas City, received his preliminary education at Kansas University and his D.O. degree at Kansas City College of Osteopathic Medicine in 1979. He specializes in obstetrics and gynecology.

Howard O. Grundy, M.D., Truman Medical Center, Dept. of Obstetrics and Gynecology, 2301 Holmes, Kansas City 64108, has become a member of Jackson County Medical Society. Dr. Grundy is a native of Dekalb, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1974. He specializes in obstetrics and gynecology.

Gregory K. Ivins, M.D., Ten South Hospital Dr., Fulton 65251, has become a member of Callaway County Medical Society. Dr. Ivins is a native of South Amboy, N.J., received his preliminary education at Princeton University and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in general surgery and orthopedics.

Richard D. Lozoff, M.D., Suite 106, 4706 Broadway, Kansas City 64112, has become a member of Jackson County Medical Society. Dr. Lozoff is a native of Milwaukee, Wis., received his preliminary education at the University of Wisconsin and his M.D. degree at Rush University in 1978. He specializes in gastroenterology.

James M. Mick, M.D., 1233 S. Jefferson, Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Mick is a native of Hamilton, Ohio, received his preliminary education at the University of Dayton and his M.D. degree at Washington University in 1970. He specializes in pediatrics.

Dale Stegeman, M.D., 913A Leslie Blvd., Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Stegeman is a native of Jefferson City, received his preliminary education at Northeast Missouri State University and his M.D. degree at the University of Missouri-Columbia in 1981. He specializes in family practice.

Herb A. Strain, M.D., Suite 420, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Strain is a native of St. Louis, received his baccalaureate and his M.D. degrees at the University of Missouri-Kansas City in 1979. He specializes in plastic and reconstructive surgery.

Marvin E. Taylor, M.D., 1511 Christy Dr., Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Taylor is a native of Findlay, Ohio, received his preliminary education at Andrews University and his M.D. degree at Ross University in 1981. He specializes in general preventive medicine.

Claude J. Werth, M.D., 6420 Prospect, Suite T203, Kansas City 64132, has become a member of Jackson County Medical Society. Dr. Werth is a native of Ft. Hays, Kan., received his preliminary education at St. Benedict's College and his M.D. degree at Kansas University in 1964. He specializes in psychiatry.

Jay H. Yedlin, M.D., 651 E. 63rd, Suite 112, Kansas City 64110, has become a member of Jackson County Medical Society. Dr. Yedlin is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in anesthesiology.

In Memoriam

Frederick G. Germuth, M.D., Route 1, P. O. Box 229, Chesterfield 63017; graduate of Johns Hopkins University, 1945; member of St. Louis Metropolitan Medical Society; aged 62; died Sept. 8, 1984.

J. Grey Jones, M.D. P. O. Box 222, Blawenburg, N.J. 08504; graduate of the University of Michigan, 1925; member of St. Louis Metropolitan Medical Society; aged 83; died Sept. 8, 1984.

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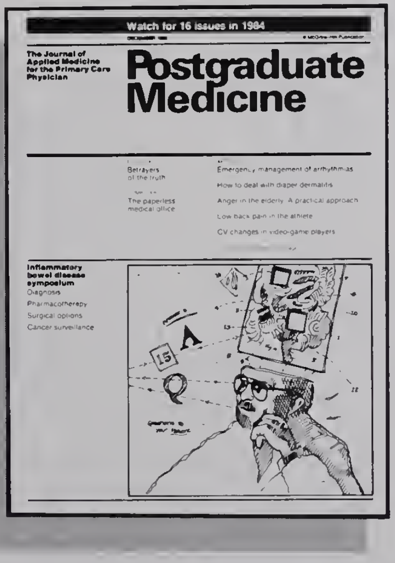
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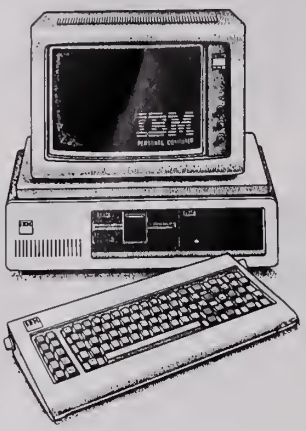

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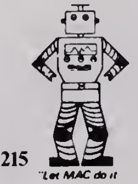

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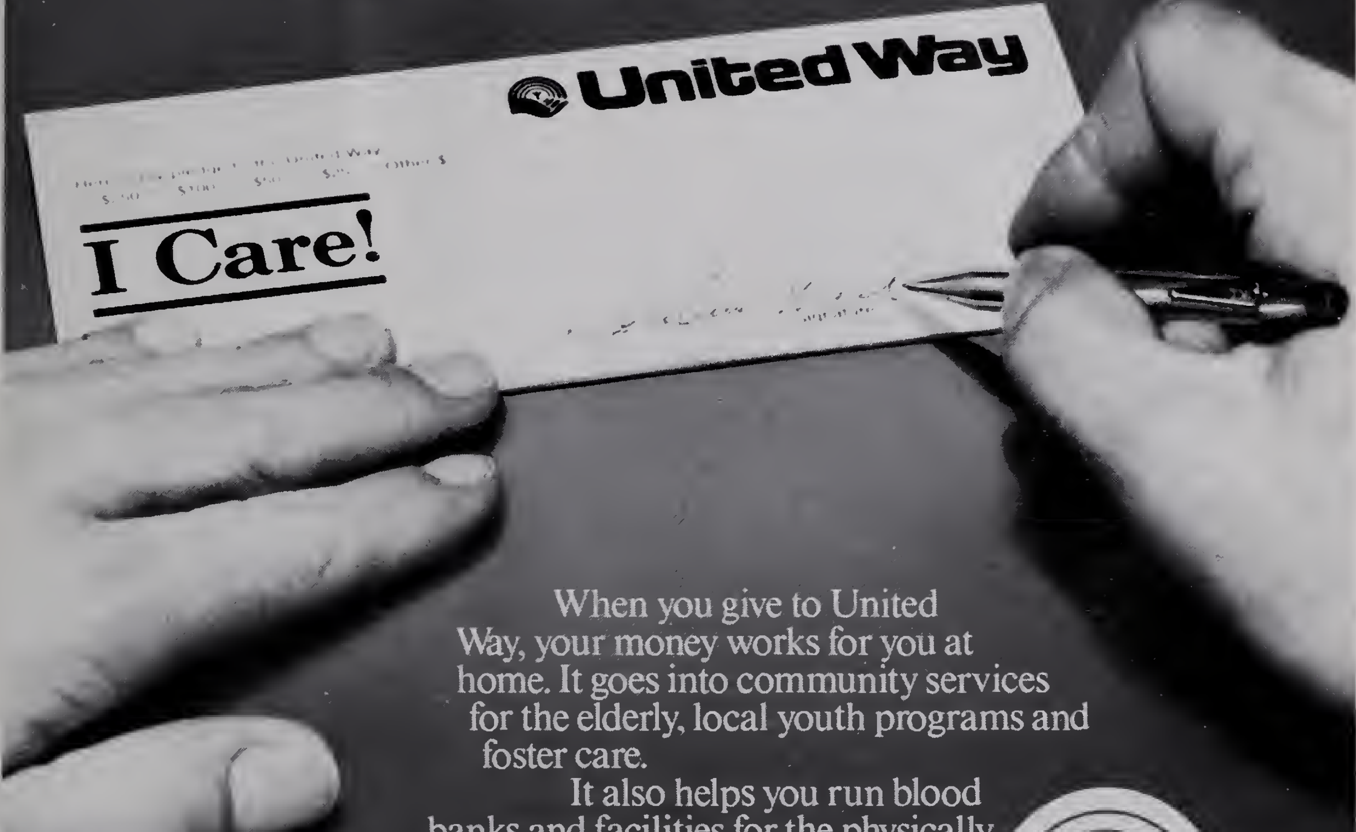

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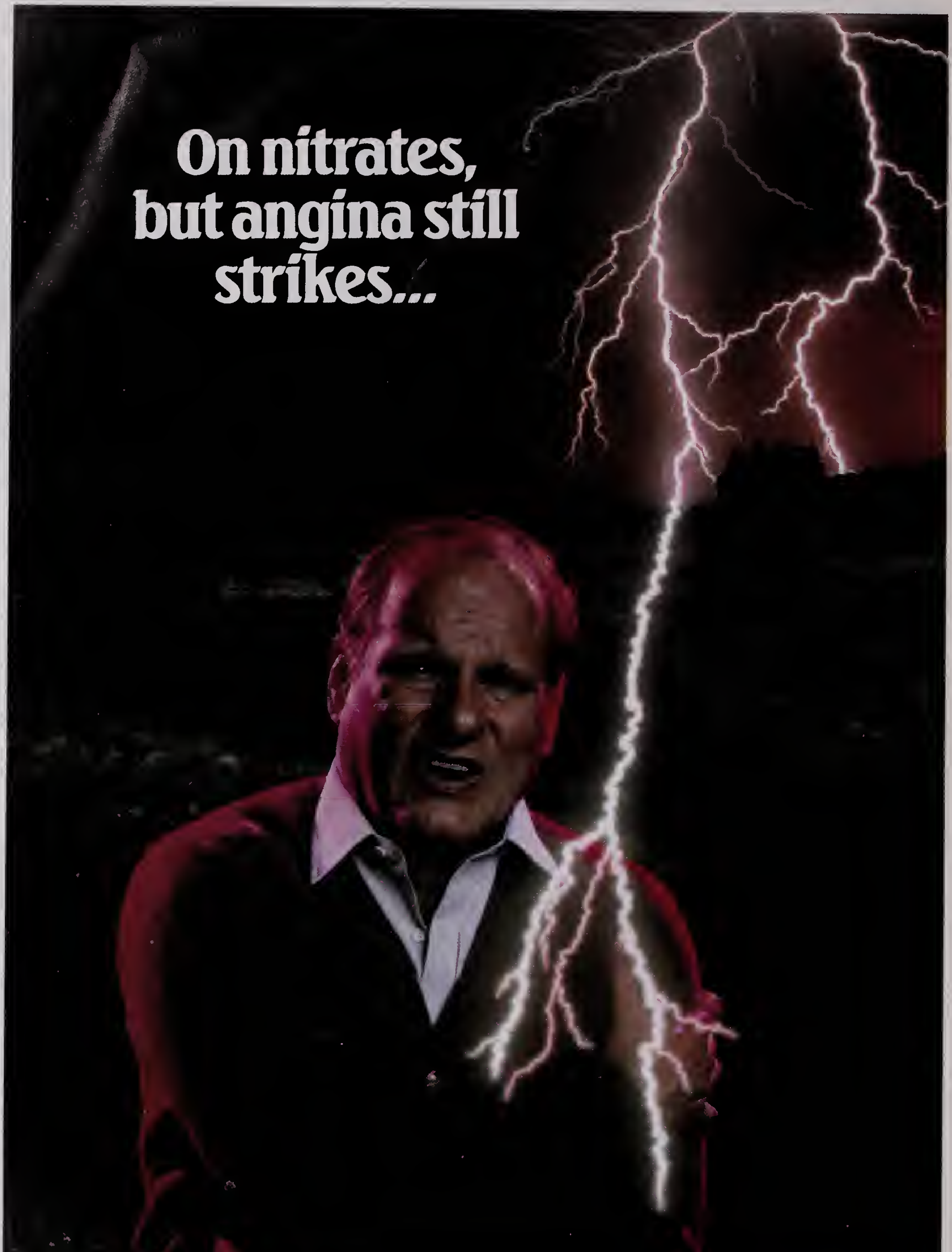
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Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

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ISOPTIN. Added antianginal protection without beta-blocker side effects.

Please see brief summary on following page

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Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

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TRUTH

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NEWS From the Medical Schools

UNIVERSITY OF MISSOURI-KANSAS CITY

Keynote speaker for School of Medicine's seventh annual Year-I convocation on October 14 was *Marlene E. B. Haffner*, M.D. of the Food and Drug Administration. Dr. Haffner, whose speech was titled "Have A Seat, Please," who is director of the FDA's Office of Health Affairs at the Center for Devices and Radiological Health, provides leadership and direction for the center's health affairs and for its research and testing functions. She is a recipient of a number of professional honors and awards.

On August 30, a survey team of three consultants — *Drs. Stan Olson, Robert Van Citters* and *John Hogness* — made a one-day visit to the School of Medicine as part of the University of Missouri Board of Curator's long-range planning efforts to look at duplicated programs within the UM system.

Marjorie S. Sirridge, M.D., recently was named the first woman president of Truman Medical Center's Medical-Dental staff. Dr. Sirridge, who is a docent at the University of Missouri-Kansas City School of Medicine, also is a member of TMC's Professional Standards Committee, the Joint Professional Committee of TMC, and the Hospital Hill Health Services Corporation Executive Committee. She also is a member of the UMKC Women's Advisory Board and the School of Medicine's Coordinating Committee, Humanities and Coordinating Committee, and Senate Executive Committee.

James P. Youngblood, M.D., has been named chairman of Truman Medical Center's Department of Obstetrics/Gynecology and professor at the UMKC School of Medicine. "We are delighted that Dr. Youngblood is joining the faculty of the UMKC School of Medicine and will begin his duties as chairman of the department in July," said Dean Harry S. Jonas, M.D. "He is a scholar with a strong background in the practice of obstetrics/gynecology and has worked in the community and knows it well."

Dr. Youngblood most recently was in private practice. Prior to that, he has served a chairman of the departments of obstetrics/gynecology at both St. Joseph Hospital in Kansas City and at St. Mary's Hospital in Kansas City.

The research efforts of four University of Missouri-Kansas City faculty members recently were boosted with funds totalling $45,000. These funds come from UMKC's Sarah Morrison bequest, which was established for research in internal medicine. This year's recipients are *Lawrence Dall*, M.D., *Joel Covinsky*, Pharm.D., *Ute Rosa*, M.D., and *Chi-Sung Zee-Cheng*, M.D.

The School of Medicine's entering Class of 1990 has the distinction of being the School's first class in which women are the majority. With 50 women and 40 men, women account for 56% of the class. Fifty-nine of the 90 students ranked in the top 5% of their high school classes, and 16 ranked in the top 10%. Members of the incoming class also scored well on their ACT tests, with 44 students with scores in 95-99 percentile, and another 22 with scores in the 90-94 percentile.

Three new faculty members recently joined the staff of the School of Medicine. *William L. Isley*, M,D., most recently spent two years with the U.S. Air Force. He was stationed at Wilford Hall Medical Center, Lackland Air Force Base in San Antonio, Texas. Dr. Isely received his M.D. from the University of North Carolina at Chapel Hill. He was both an intern and a resident at the University of Texas Health Science Center at San Antonio. He then was a fellow in the center's Division of Endocrinology. He was a 1982 winner of the Southern Society for Clinical Investigation's Young Investigator Award.

Christopher F. Sirridge, M.D., a graduate of the School of Medicine, is returning as a docent. Dr. Sirridge most recently was with the Mayo Clinic Foundation in the Hematology-Oncology Section. Prior to that, he was an internal medicine resident at the Cleveland Clinic Foundation. He is an associate member of the American College of Physicians.

Frank T. Slovick, M.D., the School's third new docent, most recently was an instructor and fellow in medicine at the University of Rochester School of Medicine and Dentistry and assistant in medicine at Strong Memorial Hospital in Rochester. He received his M.D. from the University of

Pennsylvania in Philadelphia and was an internal medicine resident and subsequently a hematology fellow at Strong Memorial Hospital.

Dennis Pyszczynski, M.D., a docent at the School of Medicine and a member of Truman Medical Center's Pulmonology staff, recently was elected to fellowship in the American College of Chest Physicians. Dr. Pyszczynski's other professional affiliations include senator for the American Federation for Clinical Research-Midwest Section, a member of the American College of Physicians, and a member of the American Thoracic Society.

ST. LOUIS UNIVERSITY

Arnold Kaplan, Ph.D., professor of microbiology, received a four-year, $361,567 grant to examine the architecture of the cell. The grant was awarded by the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases and will allow him to investigate how proteins generated from within the cell are sorted among different cell components.

"One cell component, lysosome, functions primarily as an intracellular housekeeper," Dr. Kaplan said, "and lack of lysosomal function by the cell has been linked to congenital diseases."

Lawrence M. Lewis, M.D., has been appointed co-director of the Hospitals' Emergency Trauma Division. Dr. Lewis has served as associate director of the Hospitals' emergency trauma division since 1982 and has been a member of the Hospitals' clinical faculty since 1979.

James W. Fletcher, M.D., professor of medicine and radiology at the School of Medicine and chief of nuclear medicine service at the Veterans Administration Medical Center — John Cochran Division, served as chairperson for the Symposium on Clinical Imaging of Abdominal and Skeletal Systems at the Society of Magnetic Resonance in Medicine's annual meeting in August. Dr. Fletcher also presented a paper titled, "Correlation of Measured Versus Predicted Signal Amplitude Using SPin-Echo Pulsing Sequences," that dealt with nuclear magnetic imaging methods and instrument optimization.

Also present at this meeting was *Max S. Lin*, M.D., associate professor of medicine, who gave two scientific poster sessions titled, "Stochastic Uncertainty in T_1 Observation Using Signal Ratios: Effects of Imaging Variables" and "Interpolative Determination of Observable T_1 from Signal Ratios and Representation of Stochastic Uncertainty of the Observed T_1."

Both of these physicians work with the newly installed nuclear magnetic resonance imaging device at the VA Medical Center.

WASHINGTON UNIVERSITY

Charles B. Anderson, M.D. has been appointed chief of the Division of General Surgery at the School of Medicine.

The appointment was announced by *Samuel A. Wells*, M.D., Bixby Professor and chairman of the Department of Surgery at the School of Medicine.

Dr. Anderson is head of the renal transplant team at Barnes Hospital and a staff surgeon at Children's and Jewish hospitals, sponsoring institutions of the Washington University Medical Center. His new appointment also carries the position of chief of general surgery at Barnes Hospital.

Dr. Anderson is best known for his work in transplantation and vascular surgery. His studies on planned blood transfusions in kidney recipients — a process by which the renal transplant candidate receives blood transfusions from the donor before the transplant operation — have received international recognition. The blood transfusions significantly decrease chances of rejection by the kidney recipient. That research is supported by a $600,000 grant from the National Institutes of Health (NIH) and a $60,000 grant from the Missouri Kidney Program.

This year, Dr. Anderson was one of the 400 surgeons selected as the first in the United States to be certified in vascular surgery by the American Board of Surgery.

Dr. Anderson joined the faculty of the School of Medicine in 1970 as an instructor in surgery and became professor in 1979. He received the bachelor of arts degree with honors from the Johns Hopkins University and is a 1962 graduate of Yale University School of Medicine. He interned and served his residency in surgery at Barnes Hospital.

Washington University School of Medicine in St. Louis has opened the first information center in the area for Parkinson's Disease patients and their families.

The Department of Neurology created the Parkinson's Disease Information and Referral Service to help the more than 5,000 patients in greater St. Louis. The center provides medical and community referrals, educational materials, seminars and a newsletter. It also operates a Hotline, 314-362-3299, to answer questions about Parkinson's Disease.

The center was created through a grant from the New York-based American Parkinson Disease Association. Medical advisor is *Erwin B. Montgomery Jr.*, M.D., assistant professor of neurology at the School of Medicine and a staff physician at Barnes and Jewish hospitals, sponsoring institutions of the Washington University Medical Center.

Coordinator is *Susan Levin*, who has been chairman of the Jewish Hospital Auxiliary's Parkinson's Educational Program (PEP) since it began three years ago. With 1,000 members, the local group is the largest chapter of PEP in the world. Mrs. Levin is also advisor to the greater St. Louis chapter of the American Parkinson Disease Association, which seeks to raise funds to support education and research locally and nationally.

UNIVERSITY OF MISSOURI-COLUMBIA

The James L. Chapel Child Psychiatry Library at the University of Missouri-Columbia (UMC) was inaugurated during ceremonies on October 3, 1984 in the School of Medicine.

Dr. Chapel, who retired August 31, had been professor of child psychiatry and chief of the Section of Child Psychiatry at the UMC School of Medicine. He is nationally known for his work on Tourette's disease, juvenile delinquency, attention deficit disorder, and hyperactivity. He also is the author of numerous articles and book chapters.

Dr. William Allen, professor of family and community medicine, was honored with a resolution passed by the Missouri Senate for improving the health care available to all citizens of the state.

Dr. Judith Miles, assistant professor of child health, has received a one-year grant of $39,233 from the Missouri Department of Social Services for a study of "Missouri Genetics Disease Program."

Alan Fleischer, a student sponsored by the Department of Medicine's research scholarships program, won the Gip A. Hudson Memorial Prize for the best research on the liver and its diseases at the National Students' Research Forum last spring in Galveston, Tex. He won $100 and a plaque.

Dr. Harold E. Carlson, associate professor in the Division of Endocrinology and Metabolism in the Department of Medicine, presented a paper on "Hypercalcemia and Hypercalciuria in Rats Bearing the MStT/W15 Pituitary Tumor" at the seventh International Congression of Endocrinology in Quebec, Canada. *Dr. Thomas W. Burns*, division director, and *Dr. David M. Klachko*, professor, also attended the meeting.

Several members of the Division of Immunology and Rheumatology in the Department of Medicine gave presentations at the annual meetings of the American Rheumatism Association and the Arthritis Health Professions Association in Minneapolis. They were *Dr. Randy D. Roberts*, instructor; *Dr. Sara E. Walker*, associate professor; *Dr. Donna J. Holsten*, clinical instructor; *Dr. Terry TenBrink*, professor; and *Dr. Gordon Sharp*, division director.

Dr. Bruce H. Hamory has been promoted from assistant to associate professor in the Division of Infectious Diseases in the Department of Medicine. He gave a presentation on "Inservice Needs for Ancillary Departments in Infection Control" at the Association of Practitioners of Infection Control annual meeting in Washington, D. C. He also was elected chairman of "Division L — Nosocomial Infection" of the American Society of Microbiologists.

Dr. Kim S. Wise, associate professor of microbiology, received the Derek Edward Award for excellence in mycoplasma research from the International Organization for Mycoplasmology at its international congress in Israel. He presented the award lecture on "Antigen Expression from Cloned Mycoplasma Genes: An Approach to Mycoplasma Genomic Analysis." At the same meeting, *Dr. Wise; Dr. Mark A. McIntosh*, assistant professor of microbiology, and *Alan Taylor*, graduate student, presented a paper on "Species-Specific Detection of Mycoplasma Hyorhinis Using DNA Probes."

Dr. Richard A. Finkelstein, professor and chairman of the Department of Microbiology, participated in a Ciba Foundation symposium on microbial toxins and diarrheal disease in London and a Gordon Conference on microbial toxins and pathogenesis in Plymouth, N. H.

Dr. Agnes Moon, associate professor of physical medicine and rehabilitation, presented head trauma rehabilitation guidelines at the postgraduate course on rehabilitation of the brain-injured adult and child in Williamsburg, Va.

The Missouri Spinal Cord Prevention Program has completed its fifth year. A record number of students were contacted this year, and 450 diving safety posters were distributed at recreation sites in the state.

Dr. James Weiss, professor and chairman of the Department of Psychiatry, recently returned from a six-month sabbatical in Southeast Asia as a senior research fellow of the National Science Foundation, the American Council on Education and Smithsonian Institution. He was one of nine senior fellows selected nationally from more than 200 candidates. Dr. Weiss also was a visiting professor at the All-India Institute of Medical Sciences in New Delhi, India, and at the University of Malaysia. During his sabbatical, he collected data demonstrating the cross-cultural validity of a new diagnostic instrument for psychopathy that he and his co-workers have developed.

Dr. Donald Silver, professor and chairman of the Department of Surgery, has returned from a People to People Vascular Specialist Delegation to Europe. Dr. Silver participated in seminars, symposia, facility visits, field trips and informal meetings with colleagues in England, Germany, Czechoslovakia, Sweden and France.

Dr. Wallace A. Rogers Jr., associate professor of pathology and interim associate dean of education at the School of Medicine, has been appointed interim associate dean of student affairs. Dr. Rogers received his M.D. from the University of Minnesota School of Medicine and has worked on malaria research in Central America, Mexico, India and Nepal.

Winners of the 1983-1984 Golden Apple award for excellence in teaching are *Dr. Ann E. Havey,* assistant professor of pathology; *Dr. Willis K. Paull, Jr.,* professor of anatomy; *Dr. John Davenport,* assistant professor of neurology; and *Dr. Stanley Vriezelaar,* a resident in the Department of Medicine. The award is sponsored by the American Medical Student Association.

The Institute of Ophthalmology has been renamed the *Mason Institute of Ophthalmology* in recognition of the late Roy E. Mason and his wife, Elizabeth Patee, principal donors for the building that houses the eye treatment and research center. Dr. Mason graduated from St. Louis University Medical School in 1905 and was a lecturer in ophthalmology at St. Louis University before joining the UMC faculty as a clinical professor in 1959. He had a private practice in St. Louis and specialized in industrial ophthalmology.

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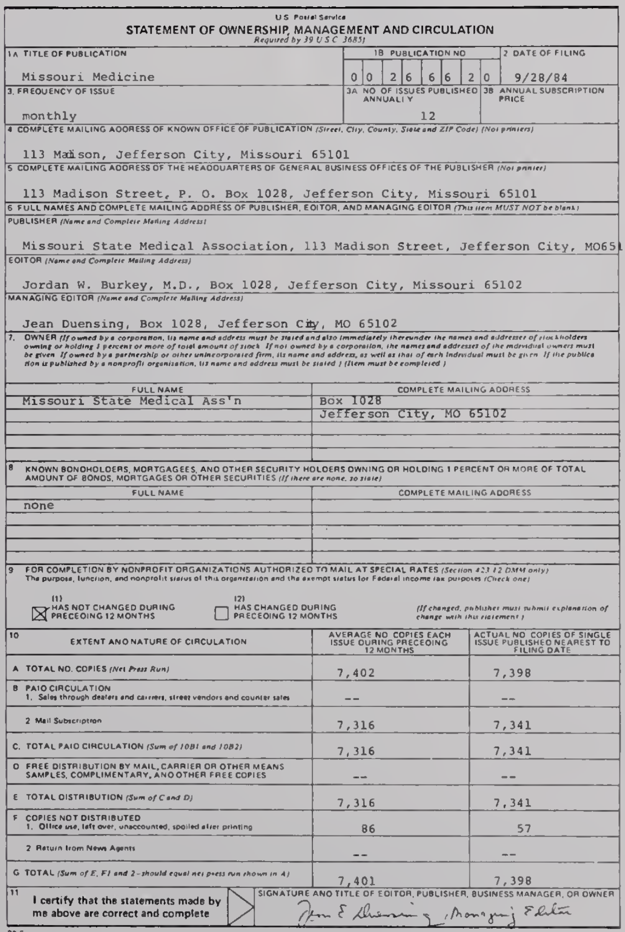

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in Brief

A summary of AMA, medical & health news

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AMA BYLAWS amendments approved at the 1984 Annual Meeting will affect the delegate allocation at the Interim Meeting in December. A constituent association will be entitled to an additional delegate and alternate if 75% or more of its members are also AMA members. It will be entitled to two additional delegates and alternates if all of its members are also AMA members. The delegate allocation for the 1984 Interim Meeting will be based on membership information on record at the AMA as of June 21. For the 1985 Annual Meeting and for future meetings, the provision for additional delegates will be based on membership information as of Dec. 31 of each year.

THE AMA WILL CONTINUE to monitor the implementation of the DRG and PRO programs, Executive Vice-President James H. Sammons, M.D., told the American Association of Medical Society Executives. The AMA is surveying hospital medical staffs across the country for assessments, pro or con, of the prospective pricing system. "We will make every possible effort — in the Congress, or, if need be, in the courts — to make PROs and the DRG payment system bearable for physicians," Dr. Sammons said. He pointed out that peer review organizations and diagnosis-related groups, with their emphasis on minimizing the utilization of hospital services, could result in more professonal liability suits.

THE NATIONAL CANCER Institute's proposal to develop a list of physicians with "special expertise" in caring for cancer patients was opposed by the AMA. In a letter to the NCI, the Association said it is concerned that the computerized information service, called Physicians Data Query II, would identify individual M.D.s based simply on membership in certain medical specialty societies. There would be no independent verification of credentials and competence. The system also would omit many physicians, such as family practitioners, merely because they do not belong to one of the selected specialty societies. The AMA also noted that some physicians would feel constrained to refer their patients only to physicians on the list.

THE AMA CLAIM FORM, now the most widely used and accepted claim form in the United States, has been updated and revised. The new form incorporates changes requested by the Health Care Financing Administration. Using the old form after December 1 could delay reimbursement. HCFA has approved the new form for Medicare and Medicaid. More than 30 Blue Shield plans use the AMA form. The Health Insurance Association of America also recommends it to 300 member companies. To receive an information packet, write to the AMA Dept. of Health Care Financing and Organization, AMA Headquarters, Chicago.

COMPLIMENTARY COPIES of AMA *Drug Evaluations* have been sent to drug regulatory authorities in 200 foreign countries, including some in the Soviet bloc. The fifth edition of *Drug Evaluations* is a standard reference work compiled and published by the AMA. It is based on, but not limited to, official drug labeling approved by the Food and Drug Administration.

PRIMARY CARE physicians numbered 202,117 in 1982, representing 43.7% of the 462,947 practicing physicians in the United States as of December 31 of that year, according to the latest figures released by the AMA Physician Masterfile. Primary care specialties and the percentage of physicians in those specialties were: internal medicine, 17.3%; family practice, 7.3%; pediatrics, 6.8%; general practice, 6.2%; and obstetrics/gynecology, 6.1%.

A THREE-PART REPORT developed by the AMA Board of Trustees' special task force on professional liability will be published in *American Medical News*. The report will review the current professional liability situation, assess the strengths and weaknesses of today's insurance market, review tort reform proposals, and consider possible solutions to the problem. The three parts will be published as 16-to 24-page supplements in the October 26 and November 23 editions of *AMN* with a final report, including task force recommendations, in January, 1985.

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References:

1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

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42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

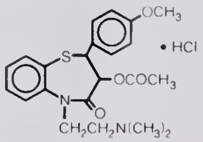
Please see full prescribing information on following page. 2/84

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+)-cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy**—CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

Issued 4/1/84

Another patient benefit product from
PHARMACEUTICAL DIVISION
MARION
LABORATORIES, INC
KANSAS CITY, MISSOURI 64137

COMPLETE
LABORATORY
DOCUMENTATION[1-5]... EXTENSIVE
CLINICAL PROOF

FOR THE PREDICTABILITY
CONFIRMED BY EXPERIENCE

DALMANE® Ⓒ
flurazepam HCl/Roche

THE COMPLETE HYPNOTIC
PROVIDES ALL THESE BENEFITS:

- Rapid sleep onset[1-6]
- More total sleep time[1-6]
- Undiminished efficacy for at least 28 consecutive nights[2-4]
- Patients usually awake rested and refreshed[7-9]
- Avoids causing early awakenings or rebound insomnia after discontinuation of therapy[2,5,10-12]

Caution patients about driving, operating hazardous machinery or drinking alcohol during therapy. Limit dose to 15 mg in elderly or debilitated patients. Contraindicated during pregnancy.

DALMANE® Ⓒ
flurazepam HCl/Roche

References: **1.** Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. 9. Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al: Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

DALMANE® Ⓒ
flurazepam HCl/Roche

Before prescribing, please consult complete product Information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

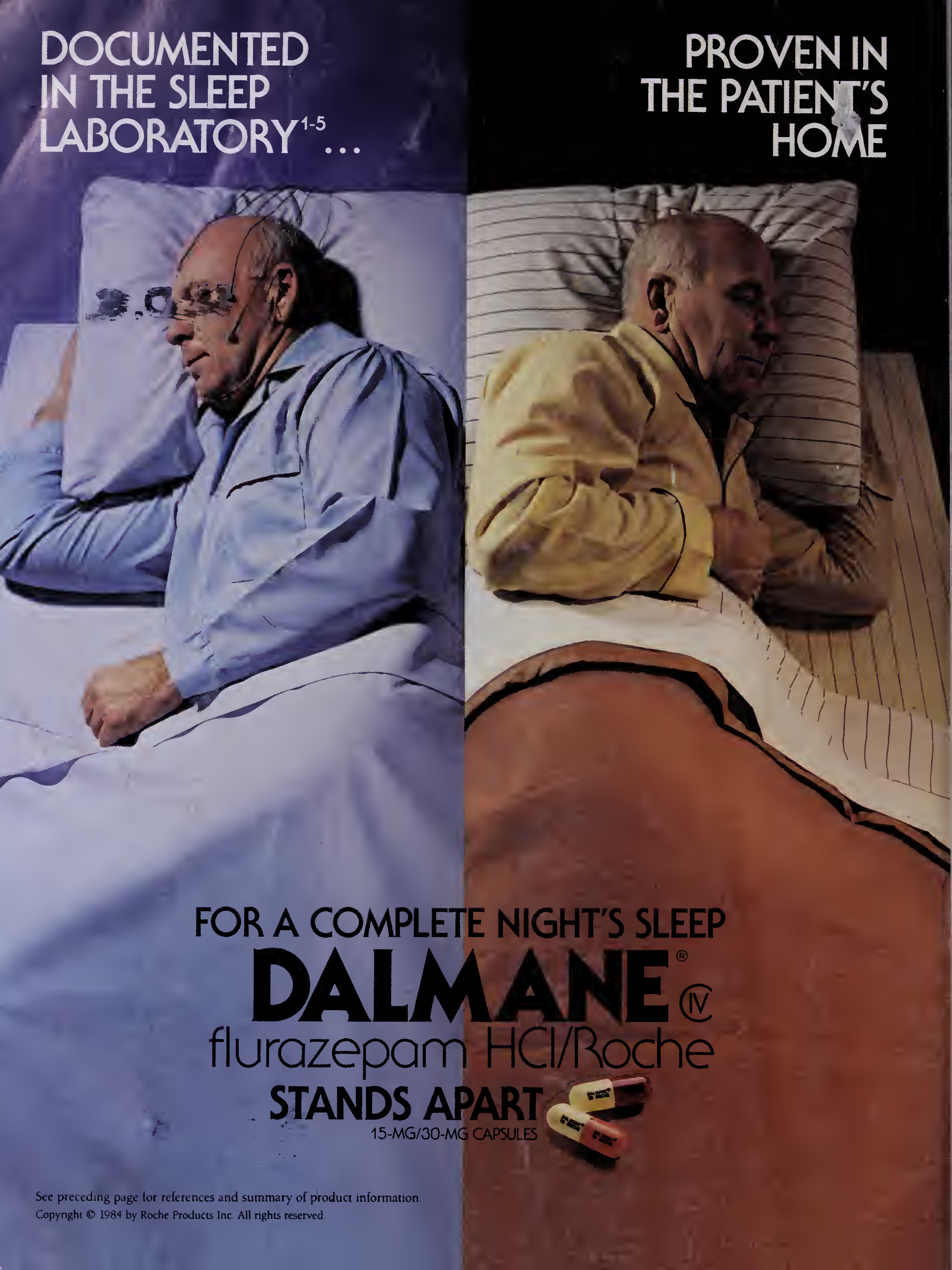
Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

ROCHE®
Roche Products Inc.
Manati, Puerto Rico 00701



DOCUMENTED IN THE SLEEP LABORATORY[1-5]...

PROVEN IN THE PATIENT'S HOME

FOR A COMPLETE NIGHT'S SLEEP

DALMANE® ⓘⓥ

flurazepam HCl/Roche

STANDS APART

15-MG/30-MG CAPSULES

See preceding page for references and summary of product information.

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STACKS

cml

Missouri Medicine

Vol. 81, No. 12 (ISSN 0026-6620) December, 1984

Eating Disorders

Self-Help
and Treatment
in Missouri

Ovarian Pregnancy with Suggested Diagnostic Criteria

Case Report

M. D. S.
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**MSMA
127th ANNUAL
CONVENTION**

APRIL 11-14, 1985

**Hyatt Regency
Kansas City**

Intracoronary Streptokinase Infusion in Patients with Myocardial Infarction

MISSOURI STATE MEDICAL ASSOCIATION

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Happy Holidays
and
Best Wishes
for the
New
Year
From the Staff of
MOMEDICO
Better Protection. Together.
10795 Watson Road, St. Louis, Missouri 63127
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"Frost on the Window"

MOMEDICO—Founded by MSMA to provide professional liability insurance to Missouri physicians.

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PROGRESS NOTES

missouri state medical association

December, 1984

Poll shows

Medical costs are top public concern

Sixty-eight percent of respondents to an AMA-sponsored public opinion poll identified "costs" as the main problem facing medicine today. In a similar poll conducted among 1,000 randomly selected physicians, 50 percent of those surveyed cited costs as the main problem.

The surveys, conducted during June and July, sought opinions on issues such as physician supply, professional liability, Medicare, and the physician fee freeze.

On physician supply, 12 percent of the public poll respondents thought there are too many doctors today. Among the physicians, 43 percent thought there are too many.

On the issue of professional liability, 43 percent of the public polled said malpractice claims are justified, and 44 percent said they thought most people who sued their physicians were just looking for a "quick way to make money." Sixty-one percent thought there should be a limit on awards, and 41 percent said current awards are too high.

When asked about the physician fee freeze, 82 percent of the public poll respondents could not recall the request for the freeze. Although only 32 percent thought physicians in general would comply, 47 percent replied "yes" when asked if they thought their personal physician would comply with the request.

In the physician poll, 49 percent said they were aware of the fee freeze request, and 70 percent said they intended to comply.

The public survey was conducted by Kane, Parsons, Inc., New York, and included telephone interviews with 1,503 randomly chosen adults across the country. The physician survey was conducted by V. Lance Tarrance and Associates, Houston.

In Brief

"Participating" percentages posted

Figures from General American, Medicare intermediary for most of Missouri, indicate that 18% of physicians in Missouri signed agreements to become "participating" physicians in Medicare. Data from Blue Cross/Blue Shield (Kansas City area) were not available at press time.

Nationwide, 23% of physicians signed and returned the Medicare agreements.

For 'non-participating' physicians

Brochure, poster explain decision

The AMA has produced posters and brochures designed to help physicians explain to their patients why they decided not to sign a "participation" agreement under the new Medicare rules.

The brochure explains the terms "participating" and "non-participating" and reassures the patient that the physician wishes to continue to provide quality medical care. The posters and brochures emphasize that changes in the Medicare law need not change the physician-patient relationship.

You may obtain a poster and brochures from the MSMA, P.O. Box 1028, Jefferson City, MO 65102.

Workers' Comp plan offers savings

Physicians can save money on their Workers' Compensation insurance through a dividend plan managed by the Dodson Insurance Group and approved by the MSMA.

Under the plan, physicians receive an immediate 15 percent discount on their initial premiums. At the end of the year, participants receive a return on their premiums, based on the cost of claims paid that year. The fewer claims made, the higher the return.

In 1984, participating physicians received a 21 percent dividend. Because the best dividends are earned when injury claims are kept to a minimum, Dodson offers accident prevention counseling and expert safety advice to help keep the workplace safer.

For more information, call or write the Dodson Insurance Group, 92nd St. and State Line, Kansas City, MO 64114, (800) 892-3431. Or contact the MSMA, P.O. Box 1028, Jefferson City, MO 65102, and your inquiry will be forwarded.

Retirement plans: Good news/bad news

Changes in pension laws affecting physicians mean unincorporated physicians do have more opportunities to tax-shelter more money than in the past. However, they will also have to comply with more paperwork, as *all* Keogh plans must now file reporting forms and meet other administrative requirements.

Incorporated physicians now face more restrictions, although most of their retirement plan tax-saving opportunities remain intact.

To help MSMA members understand and amend their retirement plans, EF Hutton & Company and Trust Consultants are offering a full range of plan design, administration and investment services. Their plans are flexible and self-trusteed, with the benefit of expert advice on your options and reporting requirements.

For information about this pension-planning program, contact Michael Grimes, EF Hutton, Boatmen's Tower, 100 N. Broadway Ste. 2080, St. Louis, MO 63102, or the MSMA, P.O. Box 1028, Jefferson City, MO 65102.

AMA history at bookstores

Frank C. Campion, an AMA staffer and former *Life* editor, has compiled a detailed recounting of the behind-the-scenes history of the AMA in a new book, *The AMA and U.S. Health Policy Since 1940.*

Called a "real insider's look at the medical profession," the book chronicles such events as the politicization of American medicine, the formation of the American Medical Political Action Committee, and how the AMA avoided financial collapse in 1974.

Campion's history relates the details behind the struggles within medicine over governmental intervention, struggles that continue today in the form of debate over DRGs. The history has been cited for its timeliness and "insider's" perspective, due to the author's having access to ample source material within the AMA.

Published by Chicago Review Press, the book is available in bookstores at a suggested price of $25.

MSMA Service Award nominees sought

The Missouri State Medical Association is seeking nominations for the annual MSMA Citizenship and Community Service Award, to be presented at the 1985 Annual Convention, April 11-14 at the Hyatt Regency, Kansas City.

The award is designed to honor a civic-minded physician who has contributed significantly to the betterment of his or her community.

Nominations for the award should include a curriculum vitae and a one- or two-page statement of the nominee's qualifications for the award.

Nominations must be received by Jan. 1, 1985. Send them to MSMA Headquarters, P.O. Box 1028, Jefferson City, MO 65102.

Bureau re-lists controlled drugs

The Division of Health, Bureau of Narcotics and Dangerous Drugs, recently published an amendment to the Schedules of Controlled Substances rule.

Under the amendment, effective November 11, Alfentanil is placed i n Schedule I, and Methaqualone is moved from Schedule II to Schedule I.

MOMEDICO ranks leading malpractice claim allegations

The physician's diagnosis is the No. 1 "cause of injury" appearing on malpractice claims made against MOMEDICO-insured physicians, according to figures from the insurance company. Diagnosis as a cause of injury was listed on 33.9% of the 822 claims made from 1978 through July 1984.

Rounding out the top five leading causes of injury on MOMEDICO claims were general treatment, surgical error, post-operative care, and infection.

A summary of the MOMEDICO data is listed in the table below. The 21 "cause of injury" categories are those used by MOMEDICO to classify all claims received. Because each claim may be classified with up to three different allegations, the percentages in the final column tally up to more than 100%. However, the data give a picture of the allegations leveled against MOMEDICO-insured physicians over the past six years.

Out of all claims handled to their conclusion by the insurance company, 80% were closed with no payment of indemnity. Nineteen of the 25 cases brought to trial were won by MOMEDICO. Out of the six cases lost, only one carried a judgment for more than the pre-trial demand.

Summary of allegations made against MOMEDICO-insured physicians
(1978-1984)

Allegation "Cause of Injury"	Number of Open Claims[1]	Number of Closed Claims[2]	Total	Percentage of total claims[3]
Diagnosis	176	103	279	33.9
General Treatment	154	99	253	30.8
Surgical Error	103	108	211	25.7
Post-op Care	41	43	84	10.2
Infection	34	45	79	9.6
Informed Consent	35	37	72	8.8
Action of Hospital/Office Staff	15	33	48	5.8
Anesthesia Injury	22	25	47	5.7
Drug Reaction/Interaction	16	30	46	5.6
Foreign Body Retained	16	23	39	4.7
Consultation	17	11	28	3.4
Pre-op Workup	11	17	28	3.4
Bill Collection[4]	1	19	20	2.4
Medical Record	5	7	12	1.4
Premises Liability	0	11	11	1.3
Product Liability	4	5	9	1.1
Vicarious Liability	2	7	9	1.1
Abandonment	5	2	7	0.8
Injection Injury	1	5	6	0.7
Personal Injury	2	1	3	0.4
"All Other Causes"	17	34	51	6.2
TOTAL CLAIMS FILED (Average of 1.62 allegations per claim)	417	405	822	

1. Open Claims are those still being presented, or expected to be presented in the .
2. Closed Claims are those on which no further action is expected. They may have been abandoned by the claimant, or adjudicated fully.
3. Represents the percentage of claims on which allegation appears.
4. Relates to claims or suits that arise following problems with patient bill collection.

BALANCED CALCIUM CHANNEL BLOCKADE!

CARDIZEM®
(diltiazem HCl)
balances
potent
coronary
vasodilation
with a low
incidence of
side effects

Low incidence of side effects
CARDIZEM® (diltiazem HCl) produces an incidence of adverse reactions not greater than that reported with placebo therapy, thus contributing to the patient's sense of well-being.

Reduces angina attack frequency*
42% to 46% decrease reported in multicenter study.[1]

Increases exercise tolerance*
In Bruce exercise test,[2] control patients averaged 8.0 minutes to onset of pain; Cardizem patients averaged 9.8 minutes ($P<.005$).

CARDIZEM®
(diltiazem HCl)

THE BALANCED CALCIUM CHANNEL BLOCKER

Please see full prescribing information on following page. 2/84

*Cardizem is indicated in the treatment of angina pectoris due to coronary artery spasm and in the management of chronic stable angina (classic effort-associated angina) in patients who cannot tolerate therapy with beta-blockers and/or nitrates or who remain symptomatic despite adequate doses of these agents.

References:

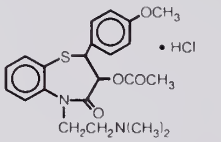
1. Strauss WE, McIntyre KM, Parisi AF, et al: Safety and efficacy of diltiazem hydrochloride for the treatment of stable angina pectoris: Report of a cooperative clinical trial. Am J Cardiol 49:560-566, 1982.
2. Pool PE, Seagren SC, Bonanno JA, et al: The treatment of exercise-inducible chronic stable angina with diltiazem: Effect on treadmill exercise. Chest 78 (July suppl):234-238, 1980.

PROFESSIONAL USE INFORMATION

cardizem®
(diltiazem HCl)
30 mg and 60 mg tablets

DESCRIPTION

CARDIZEM® (diltiazem hydrochloride) is a calcium ion influx inhibitor (slow channel blocker or calcium antagonist). Chemically, diltiazem hydrochloride is 1,5-Benzothiazepin-4(5H)one,3-(acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-, monohydrochloride,(+) -cis-. The chemical structure is:



Diltiazem hydrochloride is a white to off-white crystalline powder with a bitter taste. It is soluble in water, methanol, and chloroform. It has a molecular weight of 450.98. Each tablet of CARDIZEM contains either 30 mg or 60 mg diltiazem hydrochloride for oral administration.

CLINICAL PHARMACOLOGY

The therapeutic benefits achieved with CARDIZEM are believed to be related to its ability to inhibit the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle.

Mechanisms of Action. Although precise mechanisms of its antianginal actions are still being delineated, CARDIZEM is believed to act in the following ways:

1. Angina Due to Coronary Artery Spasm: CARDIZEM has been shown to be a potent dilator of coronary arteries both epicardial and subendocardial. Spontaneous and ergonovine-induced coronary artery spasm are inhibited by CARDIZEM.
2. Exertional Angina: CARDIZEM has been shown to produce increases in exercise tolerance, probably due to its ability to reduce myocardial oxygen demand. This is accomplished via reductions in heart rate and systemic blood pressure at submaximal and maximal exercise work loads.

In animal models, diltiazem interferes with the slow inward (depolarizing) current in excitable tissue. It causes excitation-contraction uncoupling in various myocardial tissues without changes in the configuration of the action potential. Diltiazem produces relaxation of coronary vascular smooth muscle and dilation of both large and small coronary arteries at drug levels which cause little or no negative inotropic effect. The resultant increases in coronary blood flow (epicardial and subendocardial) occur in ischemic and nonischemic models and are accompanied by dose-dependent decreases in systemic blood pressure and decreases in peripheral resistance.

Hemodynamic and Electrophysiologic Effects. Like other calcium antagonists, diltiazem decreases sinoatrial and atrioventricular conduction in isolated tissues and has a negative inotropic effect in isolated preparations. In the intact animal, prolongation of the AH interval can be seen at higher doses.

In man, diltiazem prevents spontaneous and ergonovine-provoked coronary artery spasm. It causes a decrease in peripheral vascular resistance and a modest fall in blood pressure and, in exercise tolerance studies in patients with ischemic heart disease, reduces the heart rate-blood pressure product for any given work load. Studies to date, primarily in patients with good ventricular function, have not revealed evidence of a negative inotropic effect; cardiac output, ejection fraction, and left ventricular end diastolic pressure have not been affected. There are as yet few data on the interaction of diltiazem and beta-blockers. Resting heart rate is usually unchanged or slightly reduced by diltiazem.

Intravenous diltiazem in doses of 20 mg prolongs AH conduction time and AV node functional and effective refractory periods approximately 20%. In a study involving single oral doses of 300 mg of CARDIZEM in six normal volunteers, the average maximum PR prolongation was 14% with no instances of greater than first-degree AV block. Diltiazem-associated prolongation of the AH interval is not more pronounced in patients with first-degree heart block. In patients with sick sinus syndrome, diltiazem significantly prolongs sinus cycle length (up to 50% in some cases).

Chronic oral administration of CARDIZEM in doses of up to 240 mg/day has resulted in small increases in PR interval, but has not usually produced abnormal prolongation. There were, however, three instances of second-degree AV block and one instance of third-degree AV block in a group of 959 chronically treated patients.

Pharmacokinetics and Metabolism. Diltiazem is absorbed from the tablet formulation to about 80% of a reference capsule and is subject to an extensive first-pass effect, giving an absolute bioavailability (compared to intravenous dosing) of about 40%. CARDIZEM undergoes extensive hepatic metabolism in which 2% to 4% of the unchanged drug appears in the urine. In vitro binding studies show CARDIZEM is 70% to 80% bound to plasma proteins. Competitive ligand binding studies have also shown CARDIZEM binding is not altered by therapeutic concentrations of digoxin, hydrochlorothiazide, phenylbutazone, propranolol, salicylic acid, or warfarin. Single oral doses of 30 to 120 mg of CARDIZEM result in detectable plasma levels within 30 to 60 minutes and peak plasma levels two to three hours after drug administration. The plasma elimination half-life following single or multiple drug administration is approximately 3.5 hours. Desacetyl diltiazem is also present in the plasma at levels of 10% to 20% of the parent drug and is 25% to 50% as potent a coronary vasodilator as diltiazem. Therapeutic blood levels of CARDIZEM appear to be in the range of 50 to 200 ng/ml. There is a departure from dose-linearity when single doses above 60 mg are given; a 120-mg dose gave blood levels three times that of the 60-mg dose. There is no information about the effect of renal or hepatic impairment on excretion or metabolism of diltiazem.

INDICATIONS AND USAGE

1. **Angina Pectoris Due to Coronary Artery Spasm.** CARDIZEM is indicated in the treatment of angina pectoris due to coronary artery spasm. CARDIZEM has been shown effective in the treatment of spontaneous coronary artery spasm presenting as Prinzmetal's variant angina (resting angina with ST-segment elevation occurring during attacks).
2. **Chronic Stable Angina (Classic Effort-Associated Angina).** CARDIZEM is indicated in the management of chronic stable angina. CARDIZEM has been effective in controlled trials in reducing angina frequency and increasing exercise tolerance.

There are no controlled studies of the effectiveness of the concomitant use of diltiazem and beta-blockers or of the safety of this combination in patients with impaired ventricular function or conduction abnormalities.

CONTRAINDICATIONS

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

WARNINGS

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, patients receiving CARDIZEM have exhibited reversible acute hepatic injury as evidenced by moderate to extreme elevations of liver enzymes. (See PRECAUTIONS and ADVERSE REACTIONS.)

PRECAUTIONS

General. CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

Drug Interaction. Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS).

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

Carcinogenesis, Mutagenesis, Impairment of Fertility. A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

Pregnancy. Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers. It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when CARDIZEM is administered to a nursing woman if the drug's benefits are thought to outweigh its potential risks in this situation.

Pediatric Use. Safety and effectiveness in children have not been established.

ADVERSE REACTIONS

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences, as well as their frequency of presentation, are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%), AV block (1.1%). In addition, the following events were reported infrequently (less than 1%) with the order of presentation corresponding to the relative frequency of occurrence.

Cardiovascular:	Flushing, arrhythmia, hypotension, bradycardia, palpitations, congestive heart failure, syncope.
Nervous System:	Paresthesia, nervousness, somnolence, tremor, insomnia, hallucinations, and amnesia.
Gastrointestinal:	Constipation, dyspepsia, diarrhea, vomiting, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH.
Dermatologic:	Pruritus, petechiae, urticaria, photosensitivity.
Other:	Polyuria, nocturia.

The following additional experiences have been noted:

A patient with Prinzmetal's angina experiencing episodes of vasospastic angina developed periods of transient asymptomatic asystole approximately five hours after receiving a single 60-mg dose of CARDIZEM.

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: erythema multiforme; leukopenia; and extreme elevations of alkaline phosphatase, SGOT, SGPT, LDH, and CPK. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

OVERDOSAGE OR EXAGGERATED RESPONSE

Overdosage experience with oral diltiazem has been limited. Single oral doses of 300 mg of CARDIZEM have been well tolerated by healthy volunteers. In the event of overdosage or exaggerated response, appropriate supportive measures should be employed in addition to gastric lavage. The following measures may be considered:

Bradycardia	Administer atropine (0.60 to 1.0 mg). If there is no response to vagal blockade, administer isoproterenol cautiously.
High-Degree AV Block	Treat as for bradycardia above. Fixed high-degree AV block should be treated with cardiac pacing.
Cardiac Failure	Administer inotropic agents (isoproterenol, dopamine, or dobutamine) and diuretics.
Hypotension	Vasopressors (eg, dopamine or levarterenol bitartrate).

Actual treatment and dosage should depend on the severity of the clinical situation and the judgment and experience of the treating physician.

The oral/LD_{50}'s in mice and rats range from 415 to 740 mg/kg and from 560 to 810 mg/kg, respectively. The intravenous LD_{50}'s in these species were 60 and 38 mg/kg, respectively. The oral LD_{50} in dogs is considered to be in excess of 50 mg/kg, while lethality was seen in monkeys at 360 mg/kg. The toxic dose in man is not known, but blood levels in excess of 800 ng/ml have not been associated with toxicity.

DOSAGE AND ADMINISTRATION

Exertional Angina Pectoris Due to Atherosclerotic Coronary Artery Disease or Angina Pectoris at Rest Due to Coronary Artery Spasm. Dosage must be adjusted to each patient's needs. Starting with 30 mg four times daily, before meals and at bedtime, dosage should be increased gradually (given in divided doses three or four times daily) at one- to two-day intervals until optimum response is obtained. Although individual patients may respond to any dosage level, the average optimum dosage range appears to be 180 to 240 mg/day. There are no available data concerning dosage requirements in patients with impaired renal or hepatic function. If the drug must be used in such patients, titration should be carried out with particular caution.

Concomitant Use With Other Antianginal Agents:

1. **Sublingual NTG** may be taken as required to abort acute anginal attacks during CARDIZEM therapy.
2. **Prophylactic Nitrate Therapy** — CARDIZEM may be safely coadministered with short- and long-acting nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.
3. **Beta-blockers.** (See WARNINGS and PRECAUTIONS.)

HOW SUPPLIED

Cardizem 30-mg tablets are supplied in bottles of 100 (NDC 0088-1771-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1771-49). Each green tablet is engraved with MARION on one side and 1771 engraved on the other. CARDIZEM 60-mg scored tablets are supplied in bottles of 100 (NDC 0088-1772-47) and in Unit Dose Identification Paks of 100 (NDC 0088-1772-49). Each yellow tablet is engraved with MARION on one side and 1772 on the other.

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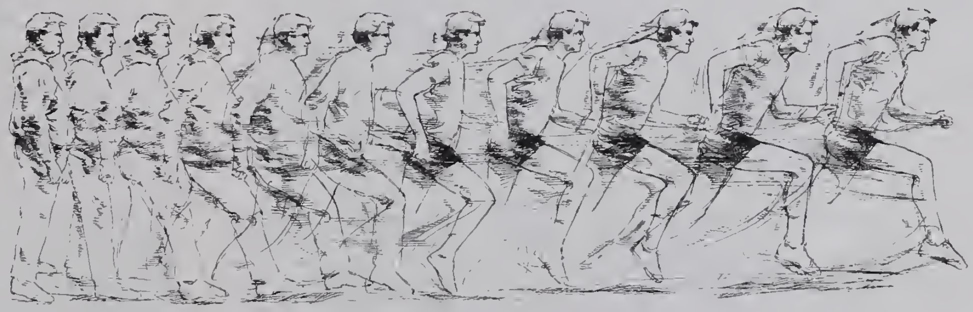

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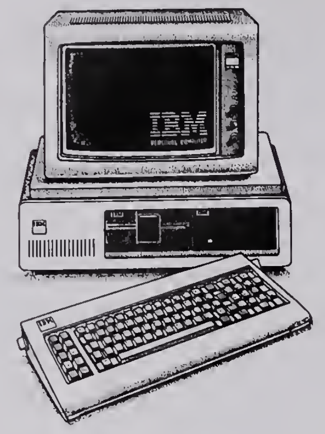

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Editor's Corner

DECISIONS, DECISIONS

In a bank not long ago, we watched a machine sort out coins — an ideal job for a mechanical contraption. It's fine to have devices to help us separate and categorize items, but many such chores still require the human brain. At this time of year, we prepare for cold weather by dividing winter from summer clothes. The housewife (or husband?) separates the clothes into proper piles before doing the laundry or the kitchen utensils before washing. We sort out items on our desk, while office personnel sort out the magazines in the waiting room.

All of our careers in medicine are involved with such mental exercises, and it is the physicians who can with skill and expedience sort out their medical problems who are most successful. Perhaps it is the person who cannot who is "out of sorts." However, classical medical school training does seem to start us out on the wrong foot. First we are given a general background in medicine — at that time in our learning, general practice, which encompasses all matters medical, is most appealing. Then we are trained in various specific areas of medicine by various experts. They, by necessity, point out the services their specialties have to offer, which by inference other specialists or mere generalists are incapable of performing. With this background, we eventually go into active practice with varying notions of when to treat, when to refer — how we should sort out our patients. They and their symptoms have to be categorized into the organic and non-organic, important and unimportant, medical and surgical, acute and chronic, those requiring a hospital and those managable as an outpatient, and problems which the physician in question can handle compared to those better referred to someone more capable for the specific situation.

These decisions have become more important recently because of the inherent economic impact involved. The various health provider organizations through capitation tend to give the primary care physicians strong financial incentive to act as strict "gatekeepers" regarding whom to keep as patients and whom to send to the specialists. It would seem that medical training should put more emphasis on helping students make intelligent decisions as to who should do what and to whom in the medical realm. The computer is going to help us by faster and more complete recall of scientific facts in various medical conditions, but we still have to do the final sorting out of patients and their problems, and thereby make the best final decisions. The old concept of "divide and conquer" is not merely a military adage; it has its application in medical care, too.

JORDAN W. BURKEY, M.D.
Springfield

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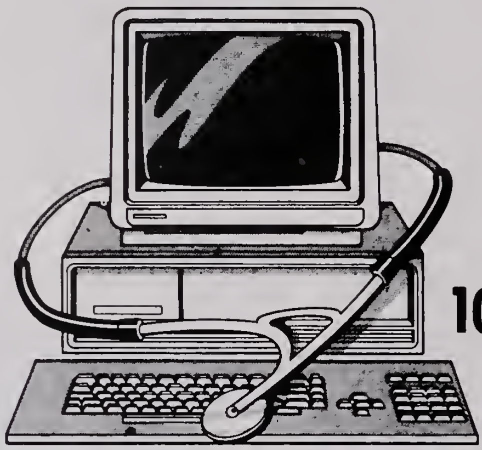

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Ovarian Pregnancy With Suggested Diagnostic Criteria

Case Report

Primary ovarian pregnancy is a relatively rare condition, often presenting itself only once or twice in a lifetime of medical practice. In recent years, several diagnostic media have been added to our armamentarium. Their usefulness is shown in the following case report.

Case Report

A 36-year-old woman entered the emergency room on Sept. 30, 1983, with a history of pain in the lower abdomen and pressure on the rectum. After taking an enema at home, she felt somewhat better. An hour later, however, the pain traveled to the upper abdomen below the ribs and finally to the right shoulder. At this time she had difficulty in breathing. The patient had had two similar attacks in the prior ten days. She had noticed a fullness in the abdomen during the previous month together with rectal pain when sitting. Her menstrual periods had been regular with somewhat lighter-colored discharge and lasted only two days the past two months, whereas her usual periods lasted four days. She had no nausea, breast engorgement or change in nipple color.

The patient has four children, ages 15, 13, 11 and 8. An examination of her heart and chest showed no abnormalities; the abdomen was diffusely tender but there were no areas of muscle guard. Tenderness was greatest in the right upper quadrant. Pelvic examination showed a cervix normal in appearance and consistency; there was exquisite tenderness in the cul-de-sac but no palpable bulging. The uterus was not enlarged; there was a palpable mass in the right adnexa. Due to the patient's inability to relax, the outlines of the mass could not be determined.

Because there was tenderness in the right upper quadrant, an x-ray of the abdomen was taken, and was later followed by normal cholecystogram. At the time of this examination a significant pelvic mass was found on x-ray.

An abdominal and pelvic sonogram (Fig. 1) showed a complex pelvic and lower abdominal mass with associated ascites. A repeat sonogram two days later gave similar findings. An intravenous pyelogram the following day (Fig. 2) showed a pelvic mass displacing the ureters laterally.

X-ray examination following a barium enema showed a large pelvic mass displacing the sigmoid and small bowel from the pelvis. A UCG (tube) test was positive.

An α-fetoprotein SR test and β-human chorionic gonadotropin (β-HCG) RIA test were done. The latter test showed a level of 4,074 I.U./ml. The normal range for the third week of pregnancy is 100-1,000 I.U./ml, while the first trimester range is 10,000-160,000 I.U./ml.

Laboratory studies disclosed the following values: hemoglobin, 11.9 gm/dL; WBC, 11,600/μL. Results of

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Cases of ovarian pregnancy are seen only rarely. This article includes a report on an authentic case of ruptured ovarian pregnancy, and also a listing of four signs and symptoms that at least suggest the diagnosis of ovarian pregnancy.

The author is from the Surgical and Gynecological Service of Incarnate Word Hospital.

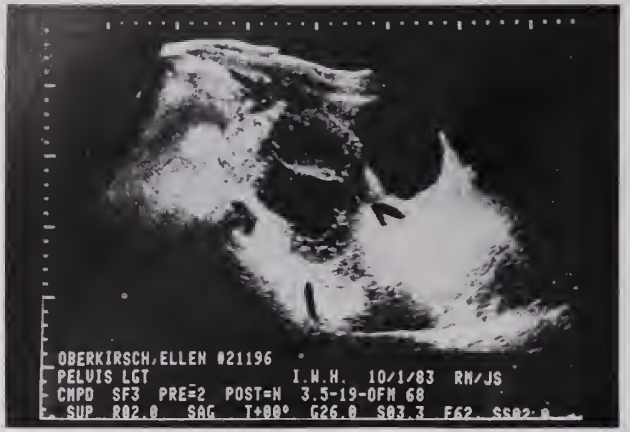
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Fig. 1 Pelvic sonogram showing the complex pelvic and lower abdominal mass with ascites.

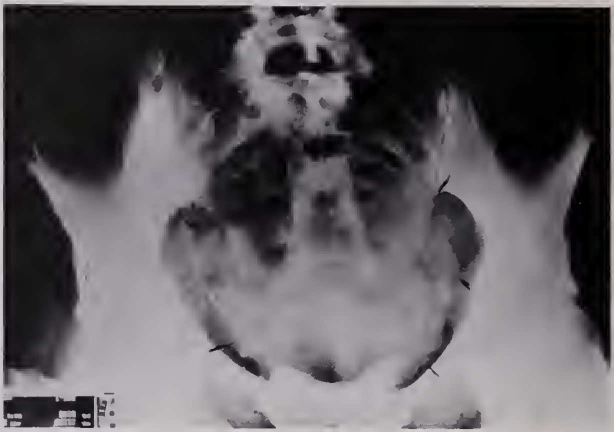

Fig. 2 The intravenous pyelogram with displaced ureters.

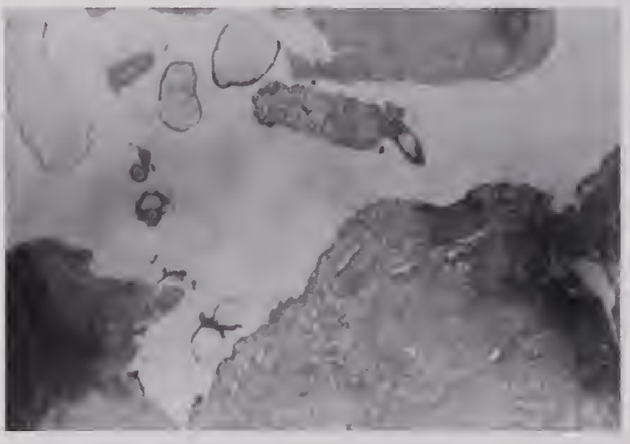

Fig. 3 Microscopic photograph showing the chorionic villi and ruptured corpus luteum.

blood bilirubin and amylase tests, and a urine test were normal. Papanicolaou test was Class I.

An operation was performed on the patient's fifth hospital day. On approaching the peritoneum through a lower abdominal incision, it was obvious that a hemoperitoneum was present. A large quantity of blood and clots were found on entering the pelvis.

The uterus was normal in size and consistency. The right ovary was the site of a baseball-sized hemorrhagic mass with a rupture on the upper surface. This large bleeding mass was removed, leaving the underlying normal fallopian tube intact. The enlarged left ovary contained a large cyst, which was removed. The left tube was also normal and was not removed. All clots were removed and the abdomen was closed. The patient had an uneventful recovery and was discharged six days later.

The pathology report findings were as follows: Sections of the right mass showed chorionic villi (Fig. 3) and blood clots in continuity with a hemorrhagic corpus luteum. All apparently were surrounded by ovarian tissue. Sections of the left ovary showed several corpora lutea.

HISTORY AND INCIDENCE

In 1682, de Saint Maurice,[1] a physician of Perigod, France, was the first to report a case of ovarian pregnancy. His patient "had been safely delivered of eight children." Five years after her last delivery, the patient died in about the third month of another pregnancy. At autopsy, the abdomen was found to be full of blood, and a two-month fetus was found in the blood clot. Both tubes and uterus appeared intact.

The high degree of fertility in this first reported patient is of interest.

In 1878, Spielgelberg[2] enumerated his four criteria for diagnosis:

1. The tube including the fimbria ovarica must be intact.
2. The gestation sac must definitely occupy the normal position of the ovary.
3. The sac must be connected to the uterus by the ovarian ligament.
4. Unquestioned ovarian tissue must be demonstrated in this sac.

In 1902, Thompson[3] recorded the first instance of ovarian pregnancy in the American literature. Since then, several hundred authentic cases have been reported. Vulgars and Reich[4] reviewed the literature up to 1974 and collected 211 authentic cases. The incidence is variously reported as 1 in 25,000 to 1 in 60,000 pregnancies. Seventy-five percent terminate in the first trimester. Nichalls[5] in 1941 reported on 38 ovarian pregnancies that reached the age of viability with 12 living babies and 22 living mothers. In the 32 years since that report, a search of the literature by Pratt and Thomas[6] revealed 10 cases that reached the age of viability.

Pathology

The usual classification into primary and combined cases was proposed by Baden and Heins[7]. It is based on the site of implantation and later development of the fertilized ovum.

In primary cases ovarian tissue forms a complete intact layer around the fetus and fetal tissues; if ruptured, the site of rupture must have been through a previously intact layer of ovarian tissue.

In the combined ovarian pregnancy category, the ovary forms at least a portion of the tissue lying adjacent to the fetal tissues but does not form the entire wall itself.

The primary type is further subdivided to include intrafollicular and extrafollicular development. In the case of ruptured ovarian pregnancy, as was true in the present report, classification becomes quite difficult. From the standpoint of achieving an accurate pathological diagnosis an important practical point has been emphasized by Hallatt.[8] If a hemorrhagic bleeding area is seen on the ovary it is advisable to resect this portion for microscopic examination because of the inability to distinguish ovarian pregnancy from a bleeding hemorrhagic ovary or a ruptured corpus luteum.

In a discussion of Hallatt's paper an important point was emphasized. "The data show that the intrauterine device (IUD) reduces intrauterine pregnancy very well, tubal pregnancy less well, and ovarian pregnancy not at all."

The IUD acts locally on the uterus. Ovarian pregnancy may also occur associated with intrauterine pregnancy.[9] Up to the present time 689 cases have been reported; in 4 (6%) the extrauterine component was ovarian in origin.

Etiology

Most explanations are based on the concept of a mechanical factor preventing the ovum's escape from the follicle. The view of Boronow et al[10] considers the main etiologic factor to be "chance."

Diagnosis

In addition to a careful history and pelvic examination the two most important diagnostic aids are the pelvic sonogram and the β-HCG RIA test. The overall diagnostic accuracy of sonography is 92%.[11] A review of the literature points toward a good fertility record in the case of patients with ovarian pregnancy, as in the record of the first patient reported historically as well as the present case. Excellent fertility records were also noted in the series by Hallatt.[8] In Hallatt's series, amenorrhea was noted in only 16% of the cases and most of the patients in this series did not suspect that they were pregnant. Kheng-Khoo Tau et al[12] of Singapore reported nine cases; five had missed no menstrual period.

Treatment

In those instances where the ovarian substance is not too involved, conservative management as advocated by Daugherty and Diddle[13] can be carried out. These authors recorded two cases in which the involved area of the ovary was removed and the remaining ovary left in situ. In those cases, however, as in the present case in which the ovary is markedly enlarged and replaced by a hemorrhagic mass, oophorectomy is mandatory.

Conclusion

An authentic case of ruptured ovarian pregnancy has been reported. From the review of the literature, the set of diagnostic criteria that should at least make one suspicious of ovarian pregnancy include abdominal pain, a high fertility record, absence of signs of pregnancy, and a positive pregnancy test. If, in addition to the above, the patient has used an IUD, the probability of an extrauterine pregnancy is increased.

Acknowledgement: The author expresses appreciation to Yoram Hahn, M.D., for seeing in consultation the patient in the case report.

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Eating Disorders: Self-Help and Treatment in Missouri

Anorexia nervosa and bulimia are perhaps the most publicized of eating disorders. This article includes a review of the literature and a discussion of the efficacy of self-help groups in treating these disorders, and describes a comprehensive treatment program based in St. Louis.

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Current Concepts

Three types of eating disorders have, in recent years, captured the interest of health care professionals. They are anorexia nervosa, anorexia nervosa with bulimia, and bulimia.

Anorexia nervosa, or restrictive anorexia, is usually diagnosed when a person restricts caloric intake to the point of showing physical signs of malnutrition. These symptoms include severe and often rapid weight loss (20% or more below standard weight for the person's age group), amenorrhea, and metabolic as well as endocrine changes.

The anorectic with bulimia will engage in "binge-eating" and will use vomiting or purgatives or both to expel the food eaten during the binge. Bulimia most frequently is a concomitant of anorexia. Generally included in this group are patients who ate normally at an earlier point in their lives, were anorectic and then became bulimic. Pure bulimics have never suffered from anorexia. They binge-eat and attempt to get rid of the unwanted calories by self-induced vomiting or the use of purgatives to "cleanse" their systems.

Causative variables that are believed to account for these eating disorders range from primary hypothalamic dysfunction and a genetic basis for the illness to purely social factors.[1] Impaired hypothalamic functions in this patient population are usually the secondary rather than the primary cause of the restricted food intake. This is not to say that, for example, tumors that invade the hypothalamus and third ventricle do not produce severe emaciation or obesity. Eating disturbances caused by such tumors, however, are usually accompanied by other symptoms such as visual disturbances due to invasion of or pressure on the optic chiasm. In addition, current diagnostic techniques, such as cranial computerized tomography (CT scan), will usually demonstrate abnormal enlargement of cerebral sulci and subarachnoid spaces in such patients.

By the time their weight is 30% less than expected for their age and body build, anorectics demonstrate significant hormonal changes and problems with steroid metabolism due to alterations in functioning of the hypothalamo-pituitary-adrenal axis. Low levels of plasma luteinizing hormones (LH), follicle stimulating hormones (FSH), estradiol and progesterone are common as are diminished excretion of 17-hydroxicorticosteroids (17-OHCS) and 17-ketosteroids (17-KS). Again, these symptoms are generally secondary to altered food intake rather than producing them.

Social variables are implicated as major factors in anorexia nervosa. The "norm" of the female form, as exemplified in the media, is one of being slim. Thus, one of the social variables that may lead to anorexia is the desire to achieve this physical model.

Garner *et al* documented these shifts in our cultural "norm" for thin women.[2] Using data from *Playboy* magazine centerfolds and statistics from Miss America Pageant contestants, they documented the pernicious trend to being thin encouraged by our culture. The average weight of centerfold models in 1960 was approximately 90% of expected average weight, based on the Society of Actuaries' 1959 norm; for 1978, the norm was approximately 83% of expected average weight. These changes occurred within the context of increasing weight and height expectations for young women. The fetish for being thin is also reflected in the proliferation of articles about dieting in magazines principally published for women. Fear of being fat, fear of losing control over eating, and fear of not being as slim as possible are important social concerns. As far back as 1966, Heunemann *et al* found that 70% of high school girls were unhappy with their bodies and wanted to lose weight.[3]

A second explanation found in the literature suggests that anorexia is an expression of a fear of "growing up" biologically or socially or both. If a young girl can avoid menstruation and the development of secondary sexual characteristics, she believes she can escape the responsibilities associated with growing up. Drastically restricting the caloric intake in preadolescence will certainly accomplish these goals.

In addition to starving themselves, anorectics engage in frequent and strenuous exercise as yet another way of losing weight. Whether such increases in activity are necessarily volitional in nature can be questioned.

One of the common findings in animal studies on the effect of restricing food intake is an increase in restlessness and motility. One can measure such activity in the rat, for example, by counting the number of times the rat spins the exercise wheel. When rats are placed on a limited feeding schedule, they increase the number of times they spin the wheel. After a few days of increased activity, the adult rat will alter his cycle so that most of his activity occurs during the hour or two preceding feeding, and his total number of revolutions in the wheel per day will be somewhat less than during *ad libitum* feeding conditions. Prepubertal rats, on the other hand, do not show the shift in activity described for the adult rat and will literally run themselves to death when given the opportunity. This suggests that the heightened energy output that frequently accompanies dieting may be biologically determined.

Bruch[4] has suggested that anorexia nervosa develops in a family setting in which the child is not allowed to assume the responsibilities associated with the normal maturational process. The parents are described as overprotective, overambitious and overconcerned. Consequently, these children often develop unrealistic and perfectionistic expectations of themselves. One area of such perfectionism relates to physical attributes, with avoidance of being fat as a major concern, ergo anorexia nervosa. Regardless of the factors accounting for the development of anorexia, adolescents and young adults demonstrating this syndrome are generally described as introverted and sensitive children beset with feelings of inadequacy. They are often social isolates who perform well academically.

Thus, there are a variety of ideas used to explain the development of anorexia nervosa. At present, none of these ideas should be discarded. Regardless of the factors that may have driven the person to assume a lifestyle leading to anorexia nervosa, all those affected apparently believe (whether the belief is rational or not) that losing weight and being slim will make them feel better about themselves. Unfortunately, unless intervention occurs, these attitudes may lead to death.

Bulimia and bulimia with anorexia are the other two major diagnostic entities currently under scrutiny. It was not until the 1940s that descriptions of bulimic behavior first appeared in the scientific literature.[5] By 1980, bulimia had become an established disturbance and is identified as such in the *Diagnostic and Statistical Manual of Mental Disorders-III* (DSM-III).[6] The syndrome is characterized by repeated episodes of ingesting large quantities of food. The individual feels unable to stop eating and experiences feelings of guilt, self-deprecation and depressed mood following a binge. Termination of the binge by self-induced vomiting or purging and attempts at dieting frequently occur.

A literal interpretation of DSM-III does not allow for anorexia to occur with bulimia. DSM-III states that in order for bulimia to be diagnosed, anorexia nervosa cannot be present. We suspect that DSM-IV will reverse this order and make anorexia nervosa the primary diagnosis when bulimic symptoms are absent and probably will classify anorectics who have bulimic symptoms under bulimia. Garner and Garfinkel, as well as others, have found that based on demographic, clinical and psychometric variables, anorectics with bulimia are more like bulimics than they are like pure anorectics.[7]

Bulimia is frequently found in adolescent females and young adult women. Among college and high school students, survey research data suggest that approximately 5% report bulimic behavior (dieting, binge-eating and vomiting).[8] The behavior usually starts between 16 and 18 years of age and patients come to the attention of health-care professionals after four to five years of binging.[9] Purging behavior usually begins after one or two years of binging.

Approximately 50% of bulimic patients suffer from electrolyte imbalances, such as metabolic alkalosis, hypochloremia and hypokalemia.[10] Symptoms associated with depletion of chloride and potassium include feelings of lassitude, weakness, constipation and dysphoria. Also reported are symptoms of kidney dysfunction, edema and predisposition to cardiac arrhythmias. Other symptoms include dental caries and enamel erosion from hydrochloric acid from vomiting as well as parotid gland enlargement due to vomiting and dietary deficiencies.

Like anorexia, no single cause for bulimia can be identified. The literature suggests that genetic, familial and sociocultural factors are contributors. In recent years, there has been considerable interest in the relationship between affective and mood disorders (manic depressive disease, unipolar affective disturbance, mania, depression) and bulimia, with depression as a more prominent component than mania.[11] Familial variables include a poorly structured environment, perhaps a consequence of affective disturbance in one or both parents. This is contrasted with the highly controlling parents of anorectics. In addition to emphasizing being thin, the sociocultural factors impinging on young women today suggest that their environment has become progressively unstable and more demanding. Role expectations for women have broadened considerably.

Bulimics (and many "unaffected" women) believe that being thin is a requisite for being able to achieve in our society. The bulimic usually attempts restrictive dieting and fails, primarily because this dieting leads to tension, anxiety, depression, hyperactivity and most of all hunger. These are all uncomfortable experiences that may lead to even poorer impulse control. The unfortunate dieter may thus engage in binging behavior. The dieter's response to binging is then to attempt to get rid of the offending calories by vomiting or purging.

The personalities of bulimics are said to differ from those of anorectics. Bulimics are more impulsive and have a lower frustration tolerance. By contrast, anorectics tend to maintain excessive control. Poor impulse control in the bulimic is not limited to eating but may be manifested in other behaviors such as drug abuse, alcoholism, smoking and stealing.[12] In addition, bulimics are described as feeling chronically depressed and having exaggerated feelings of guilt and recurrent anxiety.[10, 11] We have suggested that anorexia and bulimia are affected by both biological and sociocultural variables.[13] If the latter is true, a marked increase in the incidence of these disorders should have been seen over the past 20 years.

The fact that bulimia has become a separate diagnostic category in DSM-III suggests that bulimia is either more likely to be diagnosed today or that more persons suffer from it. We now have hospital units specifically devoted to the treatment of these conditions, which would indicate their rising incidence. The growing number of self-help groups devoted to eating disorders is further indirect evidence of this increase.

SELF-HELP AND SUPPORT SYSTEMS

The first self-help group for anorexia and bulimia was formed eight years ago.[14] Since that time, many more self-help organizations for eating disorders have been formed nationwide, but their exact number is not known. We recently surveyed the 21 known self-help groups for eating disorders. Nineteen of these groups are in the United States and two are in England. Our survey revealed that only six of the groups are mutual-aid support groups, but one of these groups, named Anorexia Nervosa and Associated Disorders (ANAD), maintains that it has approximately 100 affiliate groups across the country. The spokesman for ANAD would not reveal the location or names of the groups, however, and we have no documentation of their existence. The remaining 11 groups contacted in the survey were therapy groups led by professionals who charge a fee for their services. Mutual-aid (self-help) groups differ significantly from therapy groups. Their purpose is to support members, provide a place where feelings may be openly expressed, and supply these services free or ask for a voluntary contribution.

Because self-help groups for eating disorders have been originated so recently, no standardized nationwide group treatment procedures have been developed. Effective guidelines based on knowledge of self-help and on successful experience in the existing groups are beginning to emerge. According to social science literature on self-help,[15, 16] the ideal mutual-aid group provides members with the following:

1. *Information* — Factual knowledge of the

problem and referrals to appropriate professionals.
2. *Opportunity* to share and learn from each other's common experience.
3. *Mutual support.*
4. *Positive association* — Members can identify with group goals for positive change.
5. *Collective willpower* — Group can be a catalyst for change.
6. *Opportunity to benefit* from the helping exchange.[15, 16]

Experience shows that certain elements prohibit effective group interaction. For example, when self-help groups for eating disorders are formed by those afflicted without the assistance of a professional, the groups eventually flounder.[14, 17] Some authors suggest the poor interpersonal and leadership skills of many anorectics and bulimics prevent long-term commitment to such groups.[14] Also, such peer-only, self-help groups often deteriorate into unproductive complaint sessions, which may erode the members' motivation.

Groups that maintain a connection with a professional have the potential to train group leaders capable of facilitating constructive group interaction. These lay leaders may be parents of an anorectic or bulimic who are motivated to help other parents or individuals who have recovered or are recovering from anorexia or bulimia.

The association of self-help groups for eating disorders with professionals appears to infringe on the self-help premise of "equal-status" relationships.[18] Yet experience demonstrates that professionals can provide needed information, act as role models, engage necessary community support, and provide a structure for the meetings without infringing on the primary purpose of the group, which is mutual support.

Authorities on the study of self-help agree[15, 19] that the purpose of all self-help groups is to provide mutual aid. Other benefits are improved psychological and, in the case of anorexia and bulimia, improved physiological status.

Loneliness, social isolation, and an extreme sense of "not being normal" are common experiences of anorectics and bulimics. Even members of the families of anorectics and bulimics feel that they are the only ones faced with these unusual problems and they may feel that they are forced to remain silent about them. Therefore, the self-help group is an immediate resource for social contact and potential worthwhile relationships.[33]

BULIMIA ANOREXIA SELF-HELP (BASH) AND RELATED PROGRAMS

Prior to 1982, no St. Louis area hospital had any type of special facility for the treatmnt of eating disorders. The senior author admitted patients to psychiatric[20] or pediatric wards,[21] depending on space availability. Of the patients requiring hospitalization, some were sent to one of two teaching hospitals close to the city and others were admitted to a variety of hospitals primarily chosen for overall quality of care and geographic convenience to the family.

In less than one year, it became clear that St. John's Mercy Medical Center was the admitting hospital of choice. The quality of care is high, the hospital administration showed an early interest in the possibility of establishing a special unit for eating disorder patients, and the nursing staff available to those patients was highly motivated. Several nurses volunteered to be trained in the treatment of eating disorders in order to enhance their effectiveness.[22] The senior author, as the only psychiatrist on the pediatric staff of the hospital, had access to the few pediatric beds that were available, and St. John's Hospital staff members were willing to undergo training in the treatment of eating disorders. Of the nearly 1,200 patients the senior author had treated for an eating disorder by 1982, well over 400 had been admitted to St. John's Hospital.

Coinciding with this growing tendency to send more eating disorder patients to St. John's Hospital was the formation of a self-help group called BASH (Bulimia Anorexia Self-Help) for which St. John's Hospital agreed to donate meeting space.[22] BASH was founded by the senior author in April of 1981 to provide victims of eating disorders, their families, and the general public with information about anorexia, bulimia and related problems.[7]

Funding for BASH comes from unsolicited voluntary donations. The group continues to meet at least once a month, and what began in a small basement classroom of the hospital now fills the St. John's Hospital auditorium with more than 500 persons at each meeting. All patients in the eating disorders unit are required to attend the BASH meetings as part of their treatment. The senior author stressed in a recent publication that without support systems for patients and their families, recovery from anorexia or bulimia can be difficult if not impossible.[23]

The meeting format opens with a lecture by a guest speaker who is an authority on an aspect of eating disorders followed by small group discussions and therapeutic interaction moderated by a group leader. Prior to the inception of BASH, an extensive literature search as well as correspondence with and visits to other eating disorder self-help groups were conducted. Of the small amount of information available on the subject, two points became clear: (1) self-help groups, for the most part, were merely clearinghouses for information and did not provide effective therapeutic aid and (2) the roles of groups leaders, known here as the "facilitators" of these self-help groups, were undefined and they were not systematically trained.

No guidelines, however, were available in the literature for the training of these facilitators, so the first BASH small group discussions were led by volunteers[15] from the audience assisted by the senior author.[23, 24] This arrangement proved unsatisfactory since the volunteers were inexperienced and greatly threatened by the intensity with which they were perceived as experts in eating disorders. The decision was soon made to recruit volunteers for a one-year training program[25] to involve an extensive curriculum, knowledge of the history and clinical aspects of eating disorders, and the management and understanding of group dynamics and problems.[23]

As mentioned earlier, the literature on self-help groups was scarce, so in the initial phases common sense, information and imagination dictated the training process. Since its somewhat shaky beginning, the facilitator's training guidelines have become more clearcut and stringent as exemplified by the *Facilitator's Training Manual* written by the senior author and published in March of 1983.[26] Today, all BASH facilitators have undergone the year-long training. The program for educating facilitators has now attained sufficient academic status so that several students have obtained college credit for completion of their training.

The most important aspect of facilitator training is the writing and supervision of process notes. These notes represent a joint effort of the group's co-facilitators to translate the group's interaction.[26, 27] The notes are a significant tool for teaching the important leadership skill of "reactive listening." When facilitators review and critique the process notes, they learn to listen to the process of communications, when the communications began, and how they affected all the group members. The facilitators also learn special techniques during supervision aimed at building group cohesiveness and helping group members become aware of the opportunity for change this experience provides.

Soon after the first few BASH meetings, the publication of a monthly BASH newsletter began in order to share factual information, personal testimonials, relevant editorials, book reviews, and issues related to eating disorders. In addition, a board of directors composed of academicians, professionals, lay persons, and relatives of patients was selected in December, 1981. Elections are held every year. BASH was also incorporated as a not-for-profit organization in the state of Missouri the same month.

Both the BASH meetings and the newsletter received growing amounts of publicity from the local press. Within a few months, the public relations office of St. John's Hospital was inundated with calls about BASH and requests for information about the treatment of eating disorders. Clearly, the need for a hospital unit to treat these problems was great.

In October of 1982, the administration of St. John's Hospital agreed to establish such a unit. By January of 1983, ten beds in the psychiatric ward were set aside for the treatment of eating disorder patients. Today those ten beds have been increased to 35 (with a current patient waiting list of 19) and are no longer a part of the psychiatric department but belong to ABtec[28] (The Anorexia and Bulimia Treatment and Education Center). The ABtec clinical staff consists of more than 25 full- and part-time members including a medical director, an assistant medical director, an endocrinologist, a nutritional specialist, an inpatient social worker, a 14-member nursing staff, an outpatient coordinator and dentistry residents.[29]

THE COMPONENTS OF ABTEC

ABtec is divided into five treatment modalities that interact as part of a whole. These modalities are inpatient treatment, intermediate care, outpatient treatment, crisis intervention, and self-help (the BASH component). A detailed description of the inpatient hospital routine has been published in the *Psychiatric Clinics of North America* of June 1984.[23] Descriptions of the other dimensions of treatment can be found in the *Facilitator's Training Manual*[26] and in *A Public Primer on Eating Disorders: The BASH/ABtec Approach*.[30] Both are available through the BASH office.

Evaluation of the success of the ABtec program is ongoing. The first 100 patients treated in the unit are currently being studied. A protocol is now in preparation for a prospective and retrospective study, and the initial demographic and patient population data should be available by the end of 1984. A five-year follow-up of these 100 patients is planned.

Since its modest start, the quality and circulation of the monthly *BASH Newsletter* has grown from a few hundred copies distributed locally to nearly 12,000 copies sent all over the world. Hundreds of requests to be put on the mailing list continue to arrive from everyone from health-care professionals to victims of the disorders and their families. Letters expressing appreciation for the quality of the newsletter and its importance to the field are numerous and frequent.[31]

Though ABtec and BASH have never actively solicited media attention, requests from hospitals, clubs, social organizations, schools, radio and television stations, and print media for a speaker on eating disorders continuously increased. From the ranks of the trained BASH group leaders, a highly motivated subgroup of volunteers emerged to organize a speakers' bureau to fill these requests. All 20 members of the bureau have had personal experience with an eating disorder problem (either personally or through a relative's affliction), and they have received training to provide a solid base of scholarly knowledge from which to educate and inform the public. To date, approximately 300 local and national presentations have been made by the BASH speakers bureau's members. Based on the success of BASH and the expressed need for additional support groups,[32] a BA/N (bulimia and anorexia nervosa) therapy group conducted free for inpatient and outpatient victims of anorexia and bulimia was created, along with weekly informational meetings about eating disorders.

We recognized that many victims of anorexia and bulimia are unable to receive guidance or assistance in times of crisis. We also recognized that many persons in need are unable to afford the often expensive crisis treatment provided by physicians or other health care professionals. It was thus apparent that there was a great need for a center offering information and services 24 hours a day and overnight lodging for several persons at a time.

In addition, there has recently been an abundance of advertisements and information in the media promoting the use of laxatives, diet pills, and other weight reduction techniques. To help counteract this trend and to assist persons who have an eating disorder, BASH obtained a grant from the James S. McDonnell Foundation to fund the Mary Ann Richardson Memorial BASH Crisis Center.

A sum of $300,000 was given to open the crisis center to be staffed by professionals and trained facilitators as well as to create a public awareness campaign on eating disorders. Radio and television broadcasts describing the symptoms of eating disorders, the severity of the disorders, and where to find help introduced the opening of the center in the summer of 1984. Although the not-for-profit center will primarily serve residents of the St. Louis metropolitan area, any person can receive assistance there.

To our knowledge, the interaction of hospital-based programs combined with the effective use of voluntary resources does not exist outside of Missouri to the extent that we have described here. BASH now has chapters in San Diego, Oklahoma City, Tulsa, Cincinnati, and San Francisco, working in tandem with the St. Louis treatment program. Several chapters are also expected to open soon in other large metropolitan areas. What began as a local effort at self-help for eating disorders has become an expanding national trend.

(Editor's Note — For more information about BASH, self-help groups and literature about eating disorders, readers are invited to contact Felix E. F. Larocca, M.D., St. John's Mercy Medical Center, 615 S. New Ballas Rd., St. Louis, MO 63141.)

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GREGORY C. STARKS, M.D., *and* CLAUDIA P. HARDIN, M.D., *Kansas City*

Maternal Mortality in Missouri (1976-1980)

An Update: Assessment of Changing Etiology

Maternal mortality has decreased significantly over the past 25 years. Determining the major causes of maternal death can lead to further decreases in maternal mortality by identifying those women at higher risk.

This report reviews maternal mortality for the years 1976-1980. It concludes that the causes of maternal death have not changed significantly despite modern obstetrical advances.

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MATERNAL MORTALITY, as defined by the American Medical Association (AMA) and the World Health Organization (WHO), refers to the death of any woman of any cause whatsoever while pregnant or within 90 days (AMA) or 42 days (WHO) of pregnancy termination.[1, 2] Further definition is provided by subcategorizing these deaths into (1) direct obstetric deaths, (2) indirect obstetric deaths, and (3) nonobstetric deaths to allow for statistical evaluation and provide etiologic significance.

Maternal deaths per 100,000 live births have decreased significantly during the past 25 years. In 1978, there were 320 reported maternal deaths in the United States, giving a maternal mortality rate of 9.9/100,000 live births compared to 582.1/100,000 live births in 1935.[3] Many factors that influence maternal outcome have been identified. They include age, parity and socioeconomic factors. Through the identification of these "high risk" factors, maternal outcome has improved.

Maternal mortality statistics for the state of Missouri have not been published since 1972. Because of this lack of reporting, this review was undertaken to provide an update on Missouri maternal mortalities, determine if the etiology is changing, attempt to determine improvements and/or recent trends influencing maternal and infant outcome, and review maternal mortality statistical reporting and its associated problems.

MATERIALS AND METHODS

A retrospective analysis of data for the five-year period of 1976-1980 was performed after an initial computer search of death certificates at the Missouri Division of Health. All maternal mortality certificates were manually examined and further categorized into direct and indirect obstetric causes, according to the AMA and WHO definitions. New statistics were recalculated after recategorizing maternal mortalities and comparing them to the state and national norms. Additionally, certificates were reviewed to determine if the causes of maternal deaths are changing (e.g., epidural anesthesia, increasing number of cesarean sections), and, if so, what recommendations could be proposed for improved care.

RESULTS

During the five-year period of 1976-1980, 79 maternal deaths were recorded and considered to be pregnancy-related. Of those, 37 were classified as direct obstetric deaths and 42 as indirect obstetric deaths (Table 1). By definition, (WHO and FIGO) many of the mortalities listed in the indirect-obstetric death group included nonobstetric causes.

DEMOGRAPHIC DATA

Table 2 reflects the age distribution for maternal deaths. Twenty-nine percent (24) of the mortalities were in the 15-to 20-year age group with 21% (18) in women over the age of 36 years. It appears that women less than 20 years of age and

TABLE 1
MISSOURI MATERNAL DEATHS — 1976-1980

	Direct	*Indirect*
1976	7	7
1977	11	14
1978	5	3
1979	6	9
1980	8	9
Total	37	42

Total combined — 79 Maternal deaths

older than 35 years were at the greatest risk, with fully one third of the deaths in teenagers.

Non-white women accounted for 38% (30) of the deaths. However, non-white women constituted only 19% of the births, while white women accounted for 62% of the deaths and 81% of the births (Table 3).

Medical Care

Twenty-seven percent (22) of the women died before reaching a medical facility or while in the emergency room while 73% (57) were hospitalized (Table 4). Of those maternal deaths, 70% (55) were from urban areas and 30% (24) from rural settings (Table 4). The autopsy rate during this five-year period was 57% with 14% of the records incompletely recorded.

Direct Obstetric Deaths

There were 37 maternal mortalities classified as direct obstetrical deaths (Table 5). Etiologically, the causes of death were 32.4% (12) from hemorrhage, 27% (10) from embolism, 8.1% (3) from sepsis, 13.5% (5) from toxemia and 18.9% (7) from other causes (Table 6). The seven patients in the category listed as "other causes" were considered maternal mortalities secondary to afibrinogenemia, meningitis, bronchopneumonia, anesthetic complication, trophoblastic disease, cardiomyopathy and multiple causes (Table 6). In the hemorrhagic maternal death group (32%), ectopic pregnancy (2), abortion (1), uterine rupture (4), postpartum hemorrhage (4) and Disseminated Intravascular Coagulation (DIC) were the causes identified (Table 7).

Indirect Obstetric Deaths

Forty-two obstetric cases were classified as indirect maternal mortalities (Table 1). Several of these patients died as a result of automobile accidents, suicides or traumas unrelated to their pregnancies.

TABLE 2
MISSOURI MATERNAL DEATHS — 1976-1980
AGE DISTRIBUTION

15-20	24	29.7%
21-25	10	13.5%
26-30	15	18.9%
31-35	12	16.2%
36-40	18	21.6%

Age Range — 15-39 yrs.

TABLE 3
MISSOURI MATERNAL DEATHS 1976-1980

		By Race		*Live Births*	
		White	Non-White	White	Non-White
1976	14	10	4	57,727	11,054
1977	25	13	12	61,203	11,754
1978	8	6	2	60,775	11,879
1979	15	13	2	63,655	12,401
1980	17	7	10	65,838	12,750
Totals	79	49	30	309,198	59,838
%		62%	38%	81%	19%

TABLE 4
MISSOURI MATERNAL DEATHS 1976-1980

Urban	55	(70.2%)
Rural	24	(29.7%)
Inpatient	57	(73%)
Dead on Arrival/ Emergency Room	22	(27%)

(Autopsy rate — 57%)

TABLE 5
DIRECT CAUSES OF MATERNAL DEATH
MISSOURI 1976-1980

	Official		*Corrected*	
	No.	% of Total	No.	% of Total
Hemorrhage	12	32.4	12	27.9
Embolus	10	27.0	11	25.6
Pulmonary	7		8	
Fat	1		1	
Aminotic Fluid	2		2	
Sepsis	3	8.2	4	9.3
Toxemia	5	13.5	8	18.6
Other	7	18.9	8	18.6
Totals	37	100.0	43	100.0

Corrected Maternal Mortality

Seventy-nine deaths were listed as pregnancy-related during 1976-1980 (Table 1). Thirty-seven were recorded as direct obstetric deaths, whereas 42 were classified as indirect. Using the International Classification of Diseases (ICD) codes, several of the patients in the indirect obstetric

TABLE 6
MATERNAL DEATHS 1976-1980 — OTHER CAUSES (7)

Afibrinogenemia	
Meningitis Post Spontaneous Abortion	
Bronchopneumonia contributing to Cardiac Arrest during Cesarean Section	
Anesthetic Accident with Fentanyl	
Trophoblastic Disease	
Postpartum Cardiomyopathy	
Multiple Causes — Cesarean section patient	Hypertension Diabetes Mellitus Diabetes Mellitus Toxemia Respiratory Failure

TABLE 7
ETIOLOGY OF HEMORRHAGIC MATERNAL DEATHS 1976-1980

Ectopic Pregnancy	2
Abortion	1
Uterine Rupture	4
Postpartum Hemorrhage	4*

* 1 intentional home delivery
* 1 blood transfusion refusal
DIC 1

death group were reclassified (Table 5). After reclassification, a total of 43 direct obstetric deaths were identified (a 14% increase), and a new maternal death rate was calculated (Fig. 1).

Discussion

Maternal mortality has been steadily declining during the last decade as indicated by the WHO report.[1] This has been attributed to improved maternal-infant prenatal care, newer technologies, more hospital deliveries, increased physician availability and the advent of perinatal centers.

The WHO estimates that in the United States, 15% to 50% of maternal deaths are reported in such a fashion that they cannot be correctly classified.[1] They cite three identifiable reasons: (1) the cause of death may not be thoroughly investigated; (2) pertinent information may not be recorded on the death certificate; and (3) local and/or state review committees may not update vital statistics following investigation.

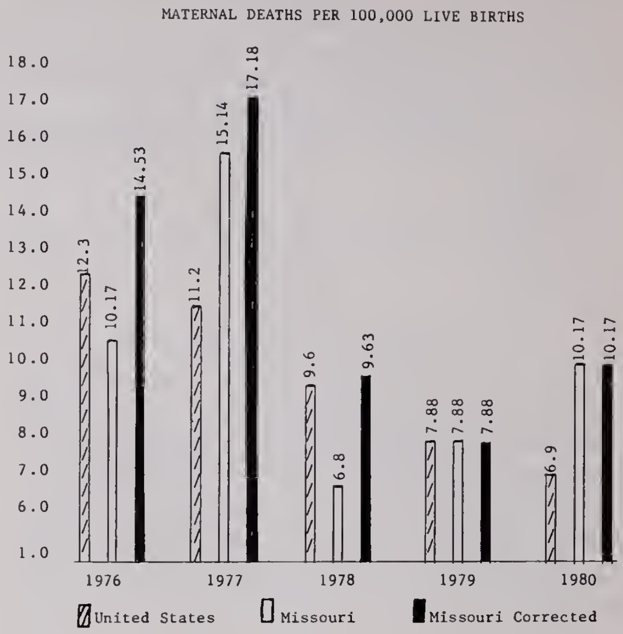

Fig. 1

During the five-year period (1976-1980), 79 maternal deaths were reported in the state of Missouri. Of those, 37 were considered to be direct obstetrical deaths and 42 indirect obstetrical deaths. Except for the year 1977, the maternal death rate remained essentially unchanged (10.1/100,000 live births) compared to the national average (6.9/100,000 live births) (Fig. 1).

From this report, it appears that the groups at greatest risk for maternal mortality are adolescents (under 20 years) and older patients (over 36 years). Clearly, one-third (30%) of the maternal deaths in this study occurred in the under-20 age group. Black women accounted for a disproportionate number of those maternal deaths (38%) as compared to the total number of deliveries (19%). Additionally, the vast majority of maternal mortalities were in an urban setting (70%) compared to the rural areas (30%). These data further support other reports that urban areas in which there are significant teenage pregnancies, poor or absent prenatal care, inadequate nutrition and other socioeconomic factors have an increased maternal and perinatal morbidity/mortality.[3] Furthermore, 73% of maternal deaths were in a hospitalized patient population, indicating that an existing medical problem had been identified prior to death.

The etiology of maternal mortality has not changed significantly despite many modern obstetrical advances. Hemorrhage, accounting for one third of the deaths, was found to be the leading cause of death in this study, as in previous reports.[3, 4] Embolic phenomena, not traditionally among the hemorrhage-toxemia-sepsis triad, were responsible for one fourth (27%) of the maternal mortalities with pregnancy-induced hypertension (13%) and sepsis (8%), accounting for one fifth and one tenth of the mortalities respectively.

During this five-year period, 12 women died from hemorrhage compared to six in 1970. One third of those hemorrhagic deaths were due to uterine rupture, one third to postpartum hemorrhage, and the remainder to a tragic home delivery and a religious objection to the use of blood products.

It would appear from these data that during the period of 1976-1980, the maternal mortality rate in the state of Missouri did not change appreciably. No new trends were identified nor were significant changes leading to an increase in maternal mortalities. Since 1970, however, there has been a significant mortality decrease from 26.1 to 10.7 per 100,000 live births. This appears to be a result of improved prenatal care; better maternal nutrition; increased prepregnancy counseling and intrapartum fetal monitoring; and the advent of perinatal-neonatal care centers. As a result of these changes, the incidence of maternal mortality, as well as infant mortality, should decline further in years to come.

As to preventability, patients with hemorrhage, particularly postpartum hemorrhage, appear to be the group with the best prognosis for further improvement in mortality statistics.

Conclusions and Recommendations

1. Maternal mortality statistics are difficult to collect, categorize and report. This study showed that discrepencies were present in categorizing maternal mortalities as to direct, indirect and nonobstetric etiologies. Nevertheless, these statistics are useful in helping to identify possible areas for improved maternal care.
2. From these data we recommend the following:
   A. Improve reporting of maternal deaths;
      1. Check box on the certificate.
      2. Give an accurate cause of death.
      3. Match deaths with live births (exclude pregnancy terminations, stillbirths, etc.).
   B. Increase autopsy rate of women in the reproductive age group.
   C. Amend death certificates after investigation.
   D. Improve prenatal care to high-risk groups, i.e., adolescents, women over age 35 years, non-whites.

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Intracoronary Streptokinase Infusion in Patients with Acute Myocardial Infarction

This article reports the use of intracoronary streptokinase in treating 40 patients with acute myocardial infarction. In patients in whom the occluded coronary artery was successfully recanalized, ischemic chest pain was usually reduced. The authors conclude that prompt treatment of patients with acute myocardial infarction may markedly reduce myocardial damage.

The authors are from the Department of Cardiology at St. Mary's Hospital and Trinity Lutheran Hospital.

THE MECHANISM by which coronary atherosclerosis leads to acute myocardial infarction (MI) has been the subject of controversy for decades. Possible mechanisms that have been suggested include coronary thrombosis, vasospasm, and rupture or ulceration of atherosclerotic plaque. It has recently become evident that thrombosis superimposed on a preexisting atherosclerotic stenosis is present in a high percentage of patients with acute MI.[1] DeWood and colleagues[2] demonstrated that 87% of patients studied by angiography within four hours after the onset of symptoms of acute MI had a completely occluded artery. This knowledge has spawned the concept that thrombolytic therapy early in acute MI might prevent or decrease myocardial damage caused by coronary thrombosis.

Thrombolytic therapy for acute MI is not a new concept. It was first attempted by using intravenous (IV) streptokinase 20 years ago. Early attempts using IV streptokinase yielded mixed results. In 1966, Practorius *et al*[3] reported 558 patients with acute MI who were treated with IV streptokinase. The 40-day mortality was 14.1% compared to that in patients in a control group who did not receive streptokinase and whose mortality was 21.7% ($p<0.05$). A European multicenter trial[4] published in 1970 reported a mortality rate of 2.2% in 269 patients treated with IV streptokinase compared to a mortality of 10.7% ($p<0.01$) in conventionally treated patients.

Aber *et al*[5] in 1975 reported no significant difference in mortality in the hospital or after six weeks and six months follow-up between patients treated with IV streptokinase and a control group. Boucek *et al*[6] employed the semiselective infusion of streptokinase into the coronary sinus in seven patients with acute MI. They noted clinical improvement in all seven and reported that the electrocardiograms (ECG) returned to normal in two.

Selective intracoronary thrombolysis using direct catheter infusion was achieved in dogs in 1972.[7] Animal experiments showed that coronary artery reperfusion with streptokinase two to five hours after coronary occlusion reduces infarct size.[8] In the first report of intracoronary streptokinase infusion in patients, Rentrop *et al*[9] found that the occluded coronary artery of 22 of 29 patients reopened within 15 to 90 minutes after initiation of intracoronary streptokinase.

Early reperfusion of ischemic myocardium may limit the extent of myocardial necrosis, salvage ischemic myocardium by rapid lysis of thrombi, improve left ventricular function and reduce morbidity and mortality.[9-15] Thus, the use of intracoronary streptokinase for coronary thrombolysis has been met with considerable enthusiasm. Intracoronary infusion has been thought to be preferable to intravenous infusion because it might provide a higher concentration of streptokinase at the site of coronary thrombosis at a lower total dose than systemic infusion, and it potentially reduces the amount of systemic fibrinolytic activity and the risk of major bleeding complications. This is a report of the results of our initial efforts using intracoronary streptokinase for thrombolysis in 40 patients with acute MI.

MATERIALS AND METHODS

Between April, 1982 and October, 1983, 40 patients at two hospitals (Trinity Lutheran and St. Mary's hospitals in Kansas City, Mo.) were treated with intracoronary streptokinase for acute MI. There were 32 men and eight women aged 33 to 74 (mean 56 ± 9 years [± S.D.]). Most patients (87.5%) were brought to the cardiac catheterization laboratory within four hours of the onset of chest pain. The diagnosis of acute MI was made when patients had typical chest pain and electrocardiogram (ECG) changes. All patients had normal clotting studies (prothrombin time, activated partial thromboplastin time, thrombin time and platelet count) prior to the procedure and there were no contraindications or anticoagulation. Informed consent was obtained from all patients.

Patients were taken to the catheterization laboratory. A temporary pacemaker electrode was placed prophylactically into the right ventricular apex. Catheterization of the left side of the heart and coronary angiography were performed by the percutaneous femoral technique. Patients received 4,000 units of heparin after arterial access was obtained and an additional 4,000 units after coronary occlusion was identified. When an occluded coronary artery was identified, 200-to 500 mcg of nitroglycerin were injected slowly into the occluded coronary artery. Repeat angiography was performed two minutes later. If occlusion remained, coronary spasm was considered to be excluded. Intracoronary streptokinase infusion was then initiated at a rate of 4,000 unit/minute. In some patients, an initial dose of 10,000 units was injected prior to the continuous infusion.

Coronary angiography was repeated at 15-minute intervals. If recanalization of the occluded coronary artery was observed, the rate of streptokinase infusion was decreased to 2,000 units/minute and maintained for an additional 60 minutes. If no recanalization was observed after 100 minutes of streptokinase infusion, the procedure was terminated. After the procedure was completed, patients were transferred to the intensive care unit and were given standard treatment for acute MI. Most patients received an anticoagulant with continuous intravenous heparin for three to five days. Some patients then received oral warfarin and/or were referred for coronary artery bypass surgery or percutaneous transluminal angioplasty.

Results

Clinical profiles of the 40 patients reported are shown in Table 1. In all patients, the admission ECG showed ST segment elevation. Thirteen patients had ST elevation in the anterior leads, four patients had anterolateral ST changes and 23 patients had inferior ST changes. Coronary angiography showed occlusion of the left anterior descending coronary artery in 17 patients, the circumflex coronary artery in six patients, and the right coronary artery in 17 patients. Sixteen patients had three-vessel disease, nine patients had two-vessel disease, and 15 had single-vessel disease. Five patients (13%) had known previous coronary artery disease. This included three patients who had previous documented myocardial infarctions. Fifteen patients (38%) had histories of hypertension and 14 (35%) had diabetes. An initial chest radiograph showed cardiomegaly in four patients and two patients had overt pulmonary edema.

The time from the onset of symptoms to infusion of streptokinase ranged from 30 minutes to eight hours (mean 192.75 ± 83.3 minutes). Coronary thrombolysis was successful in 29 cases (73%). In this group, the time from onset of symptoms to therapy was 179 ± 69 minutes (mean ± SD) compared to 229 ± 110 minutes in the group in whom recanalization was not achieved (NS). The time from onset of infusion of streptokinase to recanalization was 15 to 120 minutes (mean 44 ± 24 minutes). The dose from start of infusion to coronary artery reperfusion was 60,000 to 480,000 units (mean 157,241.4 ± 88,664 u). Unsuccessfully treated patients received 180,000 to 600,000 units (mean 370,909 ± 112,912 u). After recanalization, residual stenosis in the previously occluded coronary artery was estimated to be more than 90% in 17 patients; 50% to 90% in ten patients; and less than 50% in two patients.

Patients were treated with morphine sulfate for relief of their chest pain. Many reported additional relief in this pain after recanalization of the coronary occlusion. Two patients had complete resolution of ST elevation after successful recanalization of their coronary arteries and had no further evolution of changes associated with acute MI. The other 38 patients all evolved ECG changes including new Q waves consistent with myocardial infarction. Peak serum creatine kinase (CK) levels prior to streptokinase infusion averaged 136.3 ± 74.8 iu/L. After one to two days, streptokinase infusion, the CK levels were 2413 ± 1955 iu/L and there was no significant difference between patients with successful and unsuccessful thrombolysis (normal CK range is 28-128 iu/L). However, in patients 2 and 5 whose ECGs re-

TABLE 1
PATIENT PROFILE AND RESPONSE TO INTRACORONARY STREPTOKINASE ADMINISTRATION

Patient Numbers	*Age*	*Sex*	*Local of AMI*	*Vessel of total occlusion*	*Time from the onset pain to catheterization*	*Time from infusion SKT to reperfusion*	*Successful reperfusion*	*The dose from stat infusion to vessel reopen*	*Ejection fraction %*		*Complications and follow-up*
									before	*after*	
1	62	F	Inf	RCA	90 min		No		30		Died
2	41	M	Ant	LAD	60 min	75 min	Yes	300,000 u	61		
3	70	M	Ant	LAD	120 min	120 min	Yes	480,000 u	37		BP↓
4	45	M	Ant Lat	LAD	460 min		No		59		
5	49	M	Ant	LAD	90 min	45 min	Yes	180,000 u	56	71	
6	64	F	Ant	LAD	300 min	60 min	Yes	180,000 u	37	69	VF
7	56	F	Inf	RCA	30 min	45 min	Yes	180,000 u	39		VF Died
8	54	F	Ant Sep	LAD RCA (old)	150 min	30 min	Yes	120,000 u	18	45	
9	65	M	Inf	LCX	240 min	15 min	Yes	60,000 u	70		
10	41	M	Ant	LAD	300 min	45 min	Yes	180,000 u	27	56	
11	54	M	Ant	LAD	360 min		No		33		
12	45	M	Inf	LCX	240 min	60 min	Yes	240,000 u	28	39	
13	62	M	Ant Lat	RCA	90 min	45 min	Yes	180,000 u	75	46	Hematoma
14	46	M	Ant	LAD	150 min	30 min	Yes	120,000 u	30	32	
15	53	F	Inf	RCA	150 min	45 min	Yes	180,000 u	41	39	VF
16	57	M	Inf	RCA	60 min	45 min	Yes	180,000 u	53	52	BP↓
17	56	M	Inf	RCA	180 min	30 min	Yes	120,000 u	37	47	
18	53	M	Inf	RCA	300 min	75 min	Yes	300,000 u	65		
19	61	F	Inf	RCA	210 min		No		47	64	
20	52	M	Inf	RCA	240 min	30 min	Yes	120,000 u	44	57	VF
21	66	M	Ant Lat	LAD	180 min	45 min	Yes	180,000 u	29		
22	48	M	Inf	RCA	240 min	45 min	Yes	180,000 u	60		Hematoma
23	56	M	Ant	LAD	120 min		No		26	32	VT
24	69	M	Ant	LAD	150 min	15 min	Yes	60,000 u	31	47	VF
25	47	M	Inf	LCX	240 min		No		44		
26	66	F	Inf	RCA	240 min	15 min	Yes	60,000 u	44		VF
27	66	M	Ant Lat	LAD RCA (old)	180 min		No		10		Died
28	74	M	Inf	RCA	180 min	30 min	Yes	120,000 u	53	63	
29	53	M	Inf	RCA	210 min	30 min	Yes	120,000 u	43	60	
30	54	M	Inf	RCA	210 min		No		50		
31	49	M	Inf	RCA	180 min	15 min	Yes	30,000 u	56		
32	53	M	Inf	RCA	150 min	90 min	Yes	120,000 u	50		
33	45	M	Ant	LAD RCA (old)	240 min	45 min	Yes	90,000 u	40		VF Died
34	58	M	Inf	LAD (old) LCX	180 min	45 min	Yes	180,000 u	60		
35	69	F	Inf	LAD (old) RCA	150 min	30 min	Yes	120,000 u	70		
36	33	M	Inf	RCA	180 min	30 min	Yes	120,000 u	70		
37	55	M	Ant	LAD	240 min		No		52		
38	55	F	Inf	RCA	210 min	15 min	Yes	60,000 u	55		VF
39	71	M	Ant	LAD	240 min		No		60		
40	68	M	Ant	LAD	150 min		No		47		Stomach

Abbreviations: LAD = Left anterior descending coronary artery; RCA = Right coronary artery; Cx = Circumflex coronary artery; Inf = Inferior; Ant = Anterior; Lat = Lateral; Sep = Septal; V.F. = Ventricular fibrillation; V.T. = Ventricular tachycardia

turned to normal after the procedure, peak serum CK levels were 311 iu/L and 396 iu/L respectively.

Left ventricular ejection fraction (LVEF) measured initially was 46 ± 15% in these patients. There was no standardized protocol for repeat tests of LV function. Fourteen patients who had successful thrombolysis also had radionuclide angiography seven to 14 days after streptokinase infusion. In these 14 patients, LVEF increased from 41 ± 15% on the initial study to 52 ± 12% ($p<0.001$).

Thirteen patients had ventricular fibrillation (VF) after entry into the study. Of these, eight developed VF near the time of recanalization of the occluded coronary artery. All but one patient were successfully defibrillated. Hemorrhagic complictions were uncommon. Two patients had hematoma at the site of catheter insertion and one patient developed hematemesis that responded to treatment with antacids and cimetidine. No patient required transfusion. Three patients (8%) were recognized as having early reocclusion of the recanalized artery. In two patients, this occurred when streptokinase infusion was discontinued, and in one patient, it occurred four days after the procedure when heparin was discontinued. Chest pain developed in all patients and they had recurrent ST elevation in correlative leads. Angiography showed the coronary artery was reoccluded. One patient had bypass surgery and two patients had percutaneous transluminal coronary angioplasty.

There were four deaths within 72 hours of patients' entry into the study (mortality, 10%). Patient #33 died 15 minutes after successful thrombolysis from refractory VF. His LVEF was 40%. Patient #7 died after second emergency coronary bypass surgery procedure 72 hours after successful thrombolysis from cardiogenic shock. Two patients died from myocardial rupture after unsuccessful recanalization (autopsy confirmed).

Case Report

Patient No. 32, a 53-year-old man, was admitted after two hours of severe chest pain, diaphoresis, nausea and syncope. Blood pressure was 112/68; pulse rate, 64. He had a S-4 gallop. The lungs were clear. An ECG showed ST elevation in leads II, III and AVF. VF occurred in the emergency room and twice in the catheterization laboratory before steptokinase infusion was started. Coronary arteriography revealed 70% stenosis of the circumflex coronary artery (LCX), 40% stenosis of the left anterior descending coronary artery (LAD) and 90% stenosis of the first diagonal branch. The right coronary artery (RCA) was totally occluded (Fig. 1). LVEF was 50% with inferior hypokinesis, streptokinase infusion was started into the RCA and recanalization was observed 30 minutes later. Repeat angiography of the RCA after completion of the streptokinase infusion showed a 40% stenosis proximally and a 90% stenosis in the distal RCA (Fig. 2). The serum CK rose to 3,960 IU/L and the ECG showed evolution of an inferior wall MI. There were no complications and the patient was treated medically, (including heparin and later warfarin). He did well and went to cardiac rehabilitation two weeks after thrombolysis.

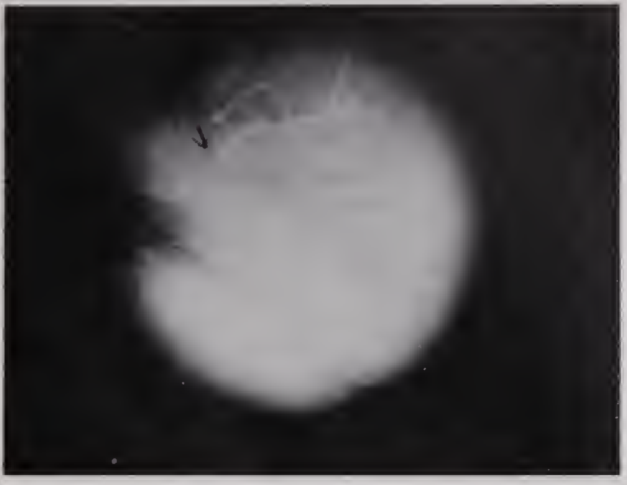

Fig. 1 Right coronary artery in the 30° left anterior oblique position. There is total occlusion of the proximal right coronary artery.

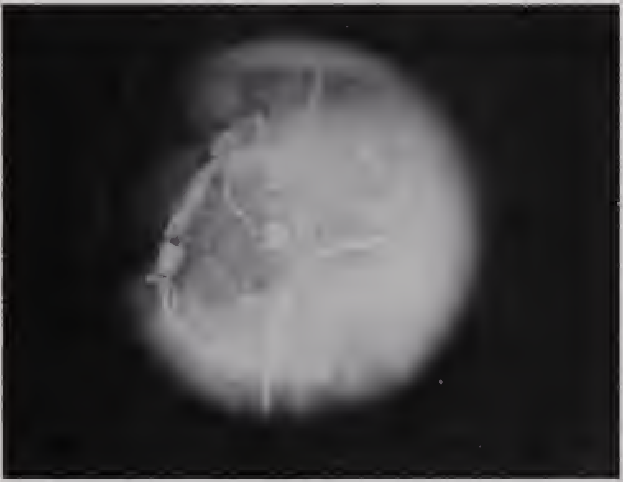

Fig. 2 Right coronary artery after successful recanalization with streptokinase. The artery fills rapidly and completely but significant stenosis persists.

Discussion

The purpose of this investigation was to determine whether an acutely occluded coronary artery could be rapidly recanalized with an infusion of streptokinase into the occluded coronary artery. We report our initial experience with the use of intracoronary streptokinase infusion in 40 patients with acute MI. Successful thrombolysis with recanalization of an occluded coronary artery was achieved in 29 of 40 cases (73%) in this group. These data are similar to that published in the past three years by several other investigators

TABLE 2
SUCCESS RATE AND LEFT VENTRICULAR FUNCTION WITH INTRACORONARY STREPTOKINASE INFUSION

Authors	*Total Cases*	*Successful Case*	*Successful % Rate*	*LVEF % Before*	*LVEF % After*
Rentrop *et al*[9]	29	20	69	51.4±9.8	55.9±9
Cowley *et al*[10]	11	8	73	42.5±5	52±5
Reduto *et al*[11]	29	20	70	46±15	55±10
Weinstein *et al*[12]	209	159	76.1	44.6	50.5
Muthey *et al*[13]	41	30	73.2	37±5	47+4
Schwarz *et al*[14]	39	32	82	46.5±10.1	54±12.8
Timmis *et al*[15]	84	74	88	47±4	53±5
Ganz *et al*[16]	20	19	95		
Ganz *et al*[17]	81	71	87.7		
Cowley *et al*[18]	23	20	87		
Merx *et al*[19]	160	129	81		
Lee *et al*[20]	20	18	90		
Ganz *et al*[21]	29	27	93		
Markis[22]	9	9	100		
Lee, G. *et al*[23]	27	22	81		
Gould *et al*[24]	25	17	68		
This Study	40	29	72.5	40.9±15	51.6±11.6

(Table 2)[9-24] who have reported successful recanalization after intracoronary streptokinase in 68% to 100% of attempts. Recanalization of an occluded coronary artery resulting from thrombolytic therapy supports the concept that acute thrombosis is the mechanism of coronary artery occlusion in acute MI in a majority of patients.[1, 25, 26]

Although recanalization of the occluded coronary artery is usually achieved, there remains the question of whether myocardial damage is prevented and whether there is any benefit to the patient. Our data indicate that myocardial necrosis was not completely prevented by successful thrombolysis. Electrocardiogram changes of myocardial infarction evolved in 38 of 40 patients and peak CK levels rose to levels usually associated with a large amount of myocardial damage. All patients with successful thrombolysis, however, were relieved of ischemic pain and two patients showed resolution of the acute myocardial injury pattern and had return of normal ECG patterns the day after successful intracoronary streptokinase infusion. In addition, those patients recognized to have reocclusion of a previously successfully opened artery had recurrence of chest pain and ECG changes suggesting that viable myocardium was preserved in the distribution of the reoccluded artery.

Many authors have suggested that intracoronary streptokinase induced thrombolysis leads to improved left ventricular function and reduces in-hospital mortality and morbidity from MI.[9] A European cooperative study group reported that the overall mortality was significantly lower in patients treated with intracoronary streptokinase for acute MI (15.6) than in a control group (30.6%) after six-month follow-up.[27] Mortality after intracoronary streptokinase infusion in our patients was 10%. We did not study a simultaneous control group. In those with unsuccessful reperfusion, however, mortality was 18% (two of 11 cases) while it was only 6% in successful reperfusion (two of 29 cases). This may reflect some improvement in mortality with successful streptokinase infusion. Alternatively, since mortality is related to the size of the area of myocardial necrosis, successful recanalization may be more likely in patients ultimately destined to have smaller infarcts.

Studies vary as to the benefit that streptokinase-induced recanalization has on left ventricular function. Fayter *et al*[28] noted that both spontaneous as well as streptokinase-induced recanalization improved left ventricular function. With anterior MI, streptokinase recanalization improved left ventricular function more than did spontaneous recanalization. With inferior MI, however, both had equally better left ventricular function compared to a group whose right coronary artery did not reopen.

Mathey *et al*[13] found that left ventricular ejection fraction improved significantly from 37 ± 5% to 47 ± 4% with successful recanalization with streptokinase. In contrast, Rentrop[29] found a modest improvement in ejection fraction from 51 ± 10% to 55 ± 9% but noted that akinetic segments involved with the acute MI decreased in size from 10.2 ± 6.2 cm to 7.1 ± 4.9 cm with successful recanalization with streptokinase. Khaju *et al*[30] detected no improvement in left ventricular function as a result of reestablishment of coronary flow. The above differences may reflect the time after recanalization at which left ventricular function is measured. For example, Bauka *et al*[31] found that deterioration of left ventricular function occurred early in the course of myocardial infarction and after reperfusion, left ventricular dysfunction persisted for at least several days.

We observed that left ventricular function may have significantly improved seven to 14 days following streptokinase-induced recanalization in our subgroup of 14 patients who were restudied by radionuclide angiography. LVEF was 41 ± 15% acutely and 52 ± 16% on follow-up in these patients. No control group of untreated or unsuccessfully treated patients was studied, and whether this improvement is different from that which occurs after recovery from acute myocardial infarction is not known. Also, we did not simultaneously compare LVEF measured by left ventricular angiography with radionuclide angiography to determine if there was a significant difference between these methods that might account for the apparent improvement in LVEF. Others[32, 33] have compared these two methods and have found a good correlation between the two techniques. Our results are similar to those of Gould[24] who said that in 60% of patients admitted with abnormal left ventricular function, significant improvement in LVEF occurred by the time of hospital discharge in patients treated with intracoronary streptokinase.

The reason that intracoronary streptokinase did not lead to recanalization of the occluded coronary artery in 11 of our 40 patients is not clear. It may be that mechanisms other than thrombosis were responsible for coronary occlusion in these patients. If thrombosis was present, the degree of atherosclerotic stenosis in the artery distal to the occluding thrombus is a possible factor. Other possibilities include that streptokinase could not be infused close enough to the site of occlusion to obtain adequate thrombolytic activity or that an insufficient dose of streptokinase was given. Animal studies have demonstrated that [34] the dose of streptokinase required for effective thrombolysis is higher with infusions performed at greater distances from the site of occlusion.

The length of time between coronary thrombosis and streptokinase infusion may be an important factor both in achieving recanalization and in ultimate benefit to the patient. The interval from the onset of chest pain to initiation of streptokinase in unsuccessful cases was 229 ± 105 minutes. This interval in the successful group was 179 ± 70 minutes ($p>0.01$). Although the difference is not statistically significant because of large standard deviation, it may be of some clinical importance. Two of our patients in whom clinical improvement was most obvious (patients #2 and #5) were patients hospitalized for unstable angina. When they developed chest pain and ST elevation, they were taken immediately to the catheterization laboratory and streptokinase infusion was initiated within 90 minutes of the onset of pain. Recanalization of their coronary artery occlusions was rapidly achieved and their ECGs were normal. Both had evidence of only minimal myocardial necrosis with peak elevation of the serum CK to only 311 iu/L and 396 iu/L respectively.

Most patients developed marked increase in serum CK activity following intracoronary streptokinase therapy. This measurement has been shown to be an unreliable indicator of infarct size in this setting because of a reperfusion induced "washout phenomenon."[35] Enzymes are released from damaged myocardial cells but normally remain in the poorly perfused myocardium where they are degraded and only slowly released into the systemic circulation. Reperfusion produces abrupt washout of CK and other enzymes resulting in a dramatic rise in serum CK activity, not necessarily reflecting larger infarctions.[36]

Several complications have been reported in patients treated with intracoronary streptokinase thrombolysis for acute MI.[10, 19] Ventricular arrhythmias, cardiac shock, hemorrhage and allergic reactions may all occur. Eight of our patients (20%) had VF after reperfusion. The propensity for ventricular arrhythmias to occur during reperfusion has been observed frequently.[37, 38] In our experience, these "reperfusion arrhythmias" respond promptly to defibrillation and lidocaine in the majority of cases. Hemorrhage complications were minor and infrequent (three of 40) and did not require transfusion or surgical intervention. The coronary arteries of three of our patients reoccluded after streptokinase infusion. We cannot be sure about the reasons for reocclusion because we continued the infusion of the thrombolytic agent in every case for at least 60 minutes immediately following reperfusion.

After successful thrombolysis, the preexisting atherosclerotic coronary stenosis still poses a threat to the downstream myocardium. No plan for dealing with this threat has achieved widespread acceptance. Long term anticoagulation, routine medical therapy, coronary bypass surgery, and coronary angioplasty have been used.[39, 40] We referred 13 (33%) patients for coronary bypass surgery and recommended coronary angioplasty for 11 (28%) patients.

In conclusion, intracoronary streptokinase therapy can be used in the community hospital setting without significant complications if carefully done with the death rate of treated patients being little different from that of patients receiving conservative therapy. Most patients show evidence of significant evolving myocardial necrosis. There may be some salvage of jeopardized myocardium and, if successful, the LVEF will be better than it is acutely. Whether this reflects the effect of streptokinase or general improvement following the acute ischemic insult is unclear. In the hospitalized patient in whom signs of acute myocardial injury are recognized, early significant myocardial damage may be prevented by rapid and aggressive therapy. We believe, as do others, that if streptokinase infusion can be initiated within three hours of the onset of symptoms of coronary occlusion, potential benefits in mortality and LV function outweigh the risks of therapy. Evaluation of the long-term effects of this procedure on survival and myocardial function will require large controlled clinical trials. It is hoped that the data obtained from this study will help clarify the role of thrombolysis in acute MI.

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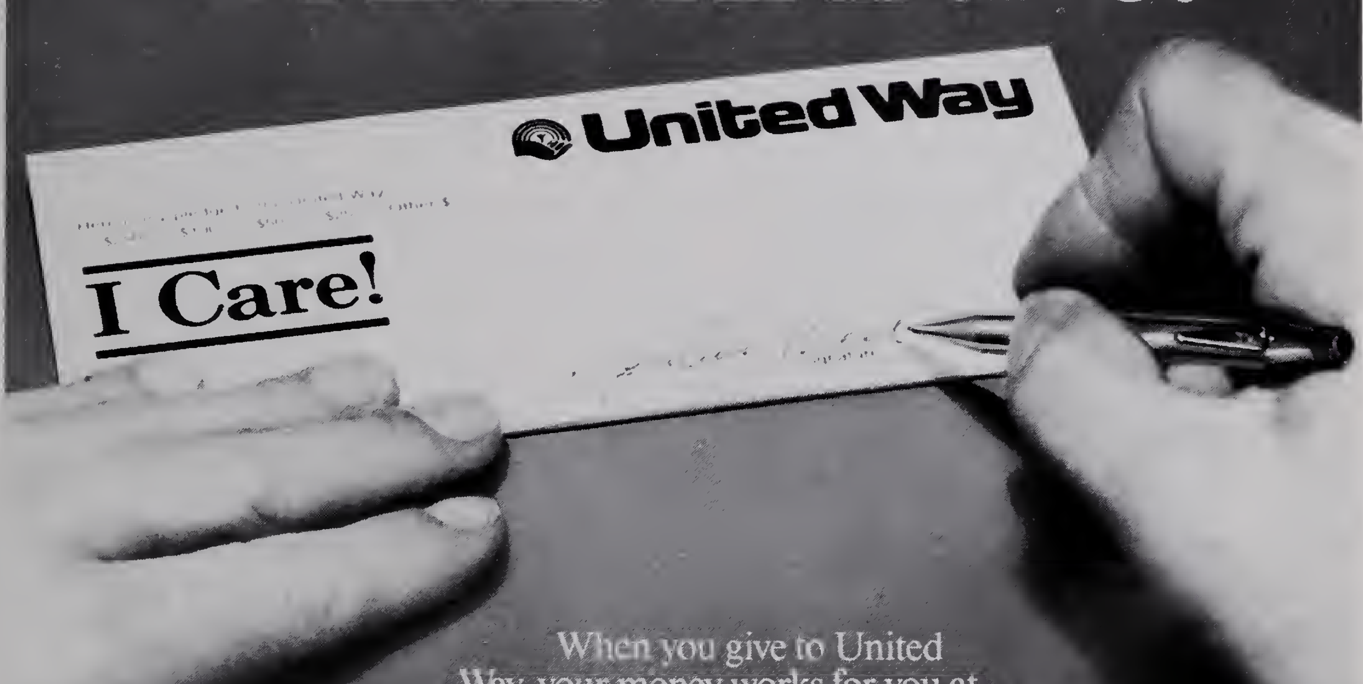

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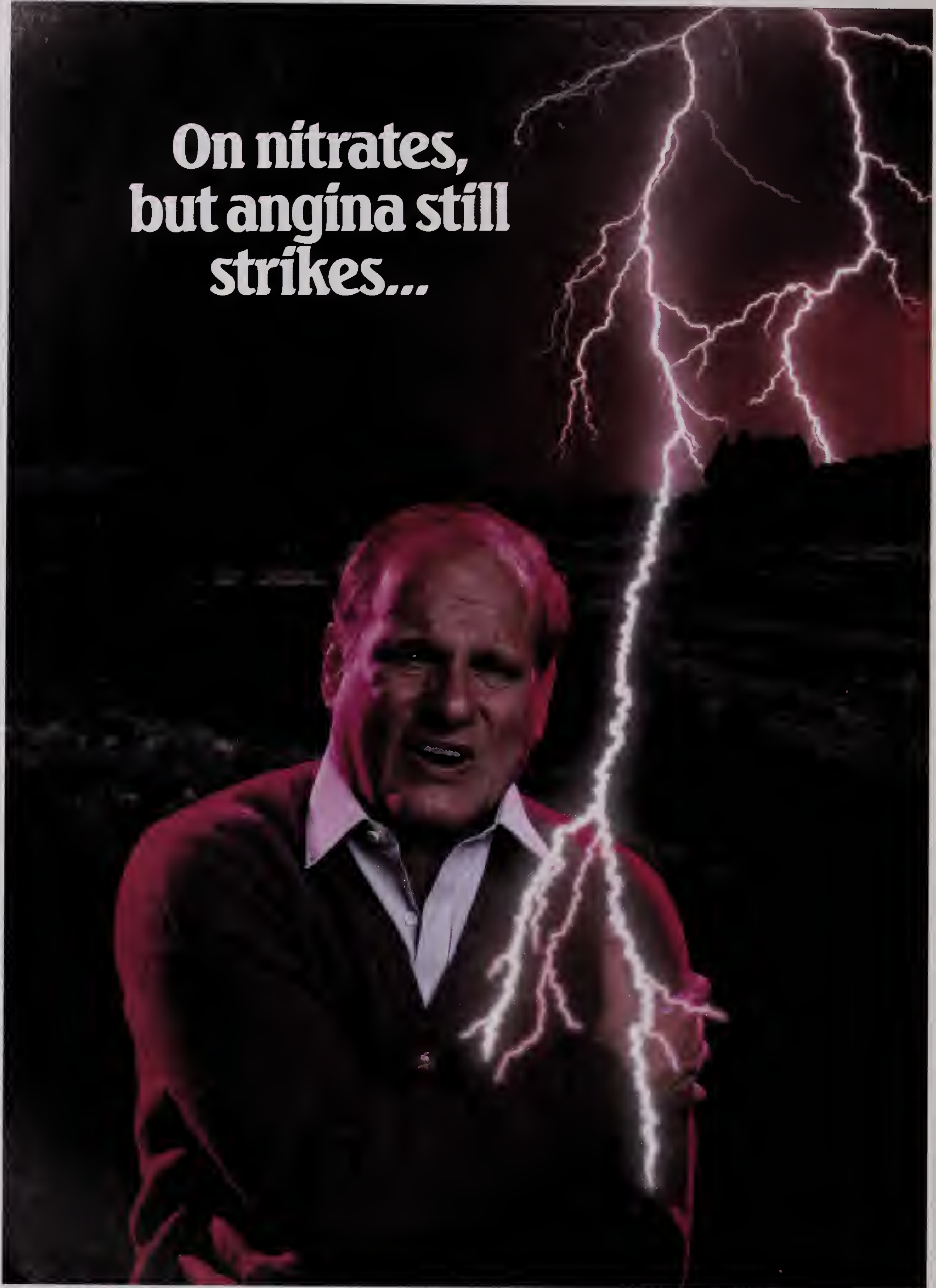
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First, Isoptin not only reduces myocardial oxygen demand by reducing peripheral resistance, but also increases coronary perfusion by preventing coronary vasospasm and dilating coronary arteries — both normal and stenotic. These are antianginal actions that no beta blocker can provide.

Second, Isoptin spares patients the beta-blocker side effects that may compromise the quality of life.

With Isoptin, fatigue, bradycardia and mental depression are rare. Unlike beta blockers, Isoptin can safely be given to patients with asthma, COPD, diabetes or peripheral vascular disease. Serious adverse reactions with Isoptin are rare at recommended doses; the single most common side effect is constipation (6.3%).

Cardiovascular contraindications to the use of Isoptin are similar to those of beta blockers: severe left ventricular dysfunction, hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no artificial pacemaker is present) and second- or third-degree AV block.

So, the next time a nitrate is not enough, add Isoptin... for more comprehensive antianginal protection without side effects which may cramp an active life style.

ISOPTIN. Added antianginal protection without beta-blocker side effects.

Please see brief summary on following page.

ISOPTIN® **TABLETS**
(verapamil HCl/Knoll)
80 mg and 120 mg

Contraindications: Severe left ventricular dysfunction (see *Warnings*), hypotension (systolic pressure <90 mm Hg) or cardiogenic shock, sick sinus syndrome (if no pacemaker is present), 2nd- or 3rd-degree AV block. **Warnings:** ISOPTIN should be avoided in patients with severe left ventricular dysfunction (e.g., ejection fraction <30%) or moderate to severe symptoms of cardiac failure. Control milder heart failure with optimum digitalization and/or diuretics before ISOPTIN is used. ISOPTIN may occasionally produce hypotension (usually asymptomatic, orthostatic, mild, and controlled by decrease in ISOPTIN dose). Occasional elevations of liver enzymes have been reported; patients receiving ISOPTIN should have liver enzymes monitored periodically. Patients with atrial flutter/fibrillation and an accessory AV pathway (e.g., W-P-W or L-G-L syndromes) may develop a very rapid ventricular response after receiving ISOPTIN (or digitalis). Treatment is usually D.C.-cardioversion. AV block may occur (3rd degree, 0.8%). Development of marked 1st-degree block or progression to 2nd- or 3rd-degree block requires reduction in dosage or, rarely, discontinuation and institution of appropriate therapy. Sinus bradycardia, 2nd-degree AV block, sinus arrest, pulmonary edema, and/or severe hypotension were seen in some critically ill patients with hypertrophic cardiomyopathy who were treated with ISOPTIN. **Precautions:** ISOPTIN should be given cautiously to patients with impaired hepatic function (in severe dysfunction use about 30% of the normal dose) or impaired renal function, and patients should be monitored for abnormal prolongation of the PR interval or other signs of overdosage. Studies in a small number of patients suggest that concomitant use of ISOPTIN and beta blockers may be beneficial in patients with chronic stable angina. Combined therapy can also have adverse effects on cardiac function. Therefore, until further studies are completed, ISOPTIN should be used alone, if possible. If combined therapy is used, patients should be monitored closely. Combined therapy with ISOPTIN and propranolol should usually be avoided in patients with AV conduction abnormalities and/or depressed left ventricular function or in patients who have also recently received methyldopa. Chronic ISOPTIN treatment increases serum digoxin levels by 50% to 70% during the first week of therapy, which can result in digitalis toxicity. The digoxin dose should be reduced when ISOPTIN is given, and the patient carefully monitored. ISOPTIN may have an additive hypotensive effect in patients receiving blood-pressure-lowering agents. Disopyramide should not be given within 48 hours before or 24 hours after ISOPTIN administration. Until further data are obtained, combined ISOPTIN and quinidine therapy in patients with hypertrophic cardiomyopathy should probably be avoided, since significant hypotension may result. Adequate animal carcinogenicity studies have not been performed. One study in rats did not suggest a tumorigenic potential, and verapamil was not mutagenic in the Ames test. *Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. This drug should be used during pregnancy, labor, and delivery only if clearly needed. It is not known whether verapamil is excreted in breast milk; therefore, nursing should be discontinued during ISOPTIN use. **Adverse Reactions:** Hypotension (2.9%), peripheral edema (1.7%), AV block: 3rd degree (0.8%), bradycardia: HR<50/min (1.1%), CHF or pulmonary edema (0.9%), dizziness (3.6%), headache (1.8%), fatigue (1.1%), constipation (6.3%), nausea (1.6%). The following reactions, reported in less than 0.5%, occurred under circumstances where a causal relationship is not certain: confusion, paresthesia, insomnia, somnolence, equilibrium disorders, blurred vision, syncope, muscle cramps, shakiness, claudication, hair loss, maculae, and spotty menstruation. Overall continuation rate of 94.5% in 1,166 patients. **How Supplied:** ISOPTIN (verapamil HCl) is supplied in 80 mg and 120 mg sugar-coated tablets. July 1982 2068

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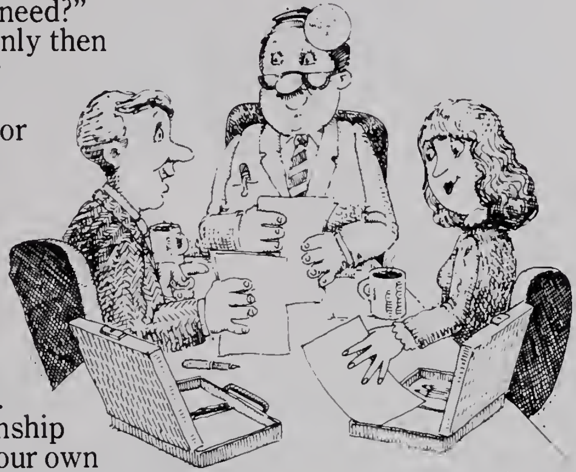

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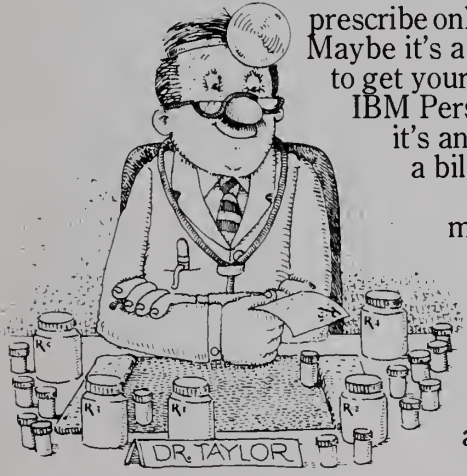

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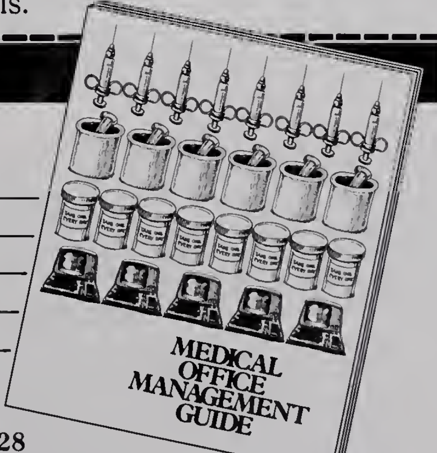

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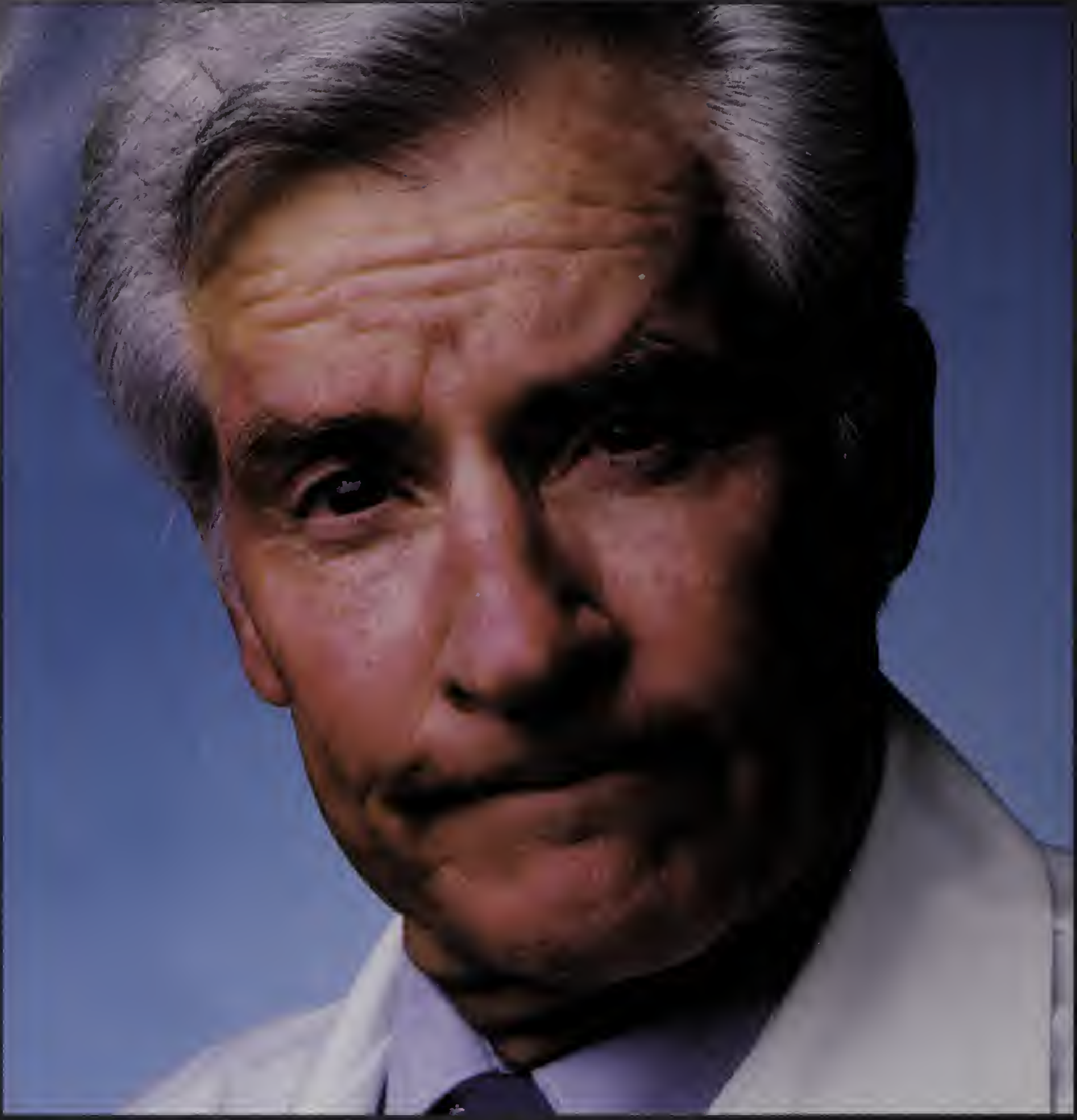

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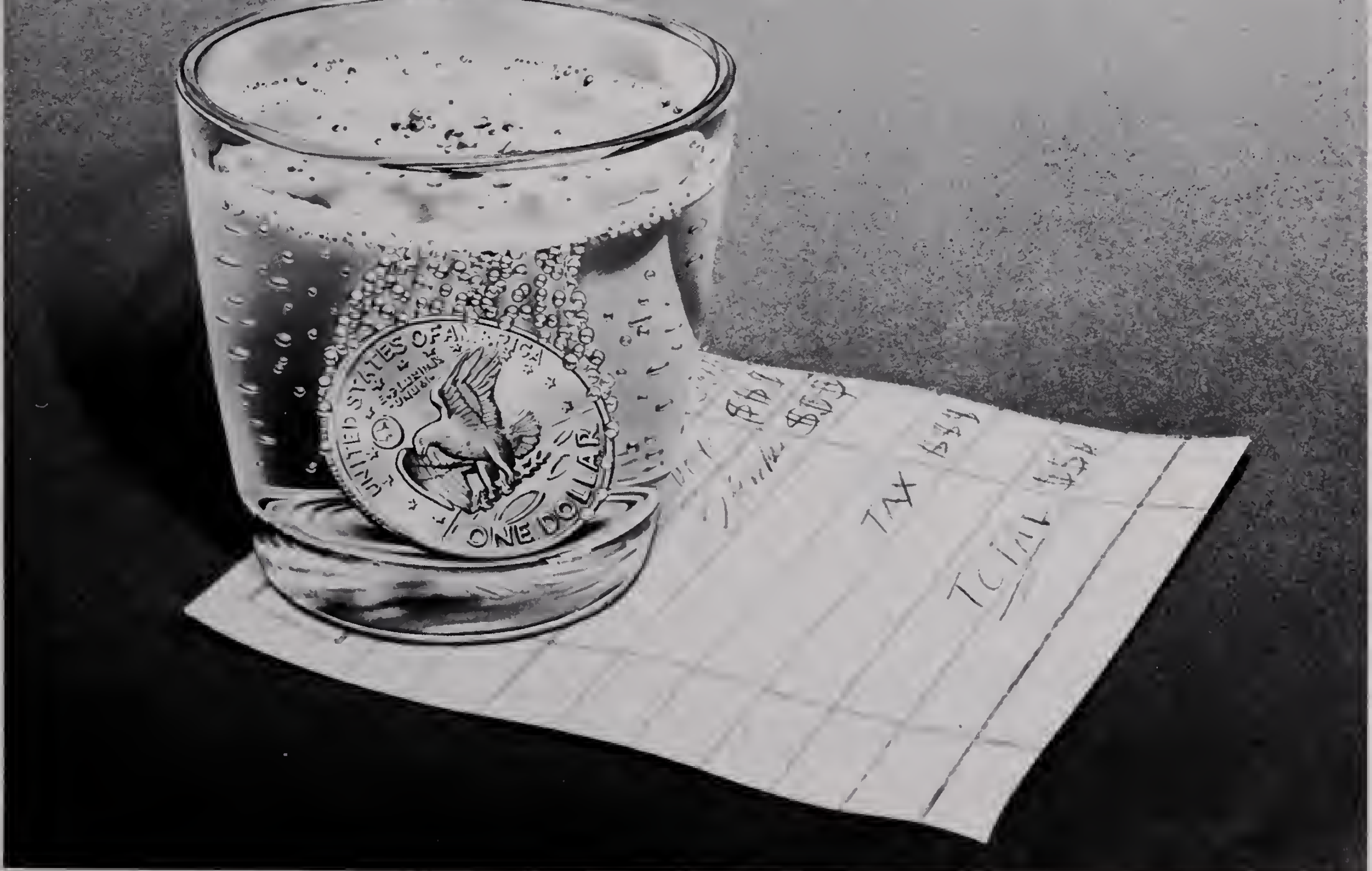

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MSMA Auxiliary

Two important events strengthening the life of the Missouri State Medical Association Auxiliary took place in October this year. They were the Leadership Confluence in Chicago and the Fall Conference in Sedalia.

Each year, the AMA Auxiliary invites the state auxiliaries to send county presidents-elect (the number based on membership) to the Leadership Confluence. Also invited are the state president, president-elect, and membership chairman. County presidents-elect from Missouri who attended were Mrs. James Ritterbusch, St. Louis Metropolitan; Mrs. Robert Clemens, Pettis County; Mrs. Benjamin Albano, Jefferson County; Mrs. Hugh Sparkman, Cape Girardeau area; Mrs. Bradley Arthaud, Boone County and Mrs. Francis Corry, Greene County.

National leaders and speakers led Confluence participants in three days of concentrated sessions including program seminars, discussion groups and leadership training. They covered such subjects as Legislation; Parliamentary Procedure; Working with the Media; Managing Conflict; Mid-Life Crisis — Dead End or New Opportunity; Prenatal and Postnatal Care; Child/Parent Relationships; The Impaired Physician; and Coping with Malpractice Problems.

It is a great joy to see Auxilians who are assuming leadership roles within the county auxiliaries expand their horizons, stretch their imaginations and abilities, and gain very real enthusiasm for auxiliary work.

Mrs. Richard Bowles
President

The Missouri State Fall Conference at Sedalia on October 24-25 provided an excellent opportunity to hear reports from those who attended the Confluence. In addition to these very interesting reports, a Membership Emphasis was led by Mrs. Stephen Vilmer, First Vice-President and Membership Chairman, with the help of our national guest, Mrs. William McPhee of Kansas City, AMA Auxiliary President-Elect.

The Fall Conference featured presentations regarding Chemical Substance Abuse and Organ Donor Awareness and were conducted by professionals.

Our host Auxiliary, Pettis County, deserved and received great praise for the outstanding accommodations and arrangements for the Conference.

A lovely banquet and entertainment planned by the Pettis County Auxiliary were enjoyed by the large group plus a few of the spouses attending the Conference. My sincere thanks to MSMA President, Dr. James Stokes, and to the MSMA Advisory Council, Dr Ron Youmans, Dr. Peter Ekern and Dr. Richard Hedges for their presence at the banquet.

The great issues confronting the practice of medicine today are sobering in complexity, yet full of challenge and opportunity. The message from Dr. Joseph Boyle to American Medicine appeals to the very soul of each of us. As we Auxilians achieve greater understanding of these issues through meetings such as these, we become better able to share the burden of change to which we seem compelled to adjust.

The Auxiliary stands in support of its men and women in Medicine with ever deepening dedication. We appreciate the Medical Association and your response to the most demanding, challenging and rewarding calling in the world.

We do wish for you the great joys of the Christmas season.

NEWS From the Medical Schools

ST. LOUIS UNIVERSITY

George F. Steinhardt, M.D., has been appointed assistant professor in the departments of surgery and pediatrics and has been named director of pediatric urology.

Dr. Steinhardt will treat urologic disorders and diseases found in children and perform reconstructive surgery to correct congenital malformations. He will participate in the multi-disciplinary clinic at Cardinal Glennon Memorial Hospital for Children and will consult on cases where his specialty is needed.

Dr. Steinhardt is a graduate of Denison University and the University of Michigan School of Medicine.

Dennis J. Sullivan, M.D., has been appointed associate professor of orthopedic surgery. Dr. Sullivan came to the School from Tripler Army Medical Center, Honolulu, Hawaii, where he served as director of hand surgery service for 10 years and chief of orthopedics during six of those years. He earned his medical degree from the University of California, San Francisco in 1964.

Louis Keppler, M.D., has been appointed instructor of orthopedic surgery. Dr. Keppler came to the School from Cleveland Clinic where he served his orthopedic residency from 1978 through 1983. He also practiced pediatric orthopedics and spinal surgery at Texas Scottish Rite Hospital, Dallas, Texas for an additional year. Dr. Keppler is also interested in sports medicine and adult reconstructive surgery.

UNIVERSITY OF MISSOURI-COLUMBIA

Dr. Robert Gaines, associate professor of orthopaedic surgery and director of pediatric orthopaedics and spine surgery, has received the Outstanding Continuing Medical Educator Award for 1983-1984.

The award is presented each year to one individual in recognition of teaching skill, ability to relate well to private practitioners and, most importantly, positive response from those who attend UMC's continuing medical education programs.

Each year dozens of UMC faculty members participate, without compensation, in continuing medical education programs held throughout Missouri. Last year more than 5,000 Missouri health care providers participated in programs which provide up-to-date information on a wide variety of health care topics.

A UMC faculty member since 1978, Dr. Gaines helped establish statewide scoliosis screening in Missouri public schools and set up four monthly orthopaedic clinics in Rolla, Hannibal, Sikeston and Unionville, MO.

He has made more than 30 presentations and exhibits. In 1972, he received the Orthopaedic Surgery Residency Richmond Award from the American Academy of Cerebral Palsy.

Dr. Gaines chairs the medical advisory committee for Missouri Crippled Children's Services and the board of directors of Easter Seal Society of Missouri.

Dr. Gaines earned the MD degree from Duke University in Durham, NC in 1967 where he received the Mosby Award given to the top five seniors.

The UMC Outstanding Continuing Medical Educator Award was presented at the annual recognition dinner in the UMC Alumni Center. The dinner is sponsored by University Physicians, the UMC School of Medicine, the UMC Hospital and Clinics and the Extension Division.

UNIVERSITY OF MISSOURI-KANSAS CITY

Harvard University Medical School administrators visited the School of Medicine last month to learn about its physical environment and teaching facilities and to talk with key contributors to its design. The visit stems from plans for a future facility for Harvard's New Pathway medical education program, which will differ from its existing medical curriculum in its emphasis on small-group, problem-based learning; its integration of clinical, social and basic sciences; and its use of computer technology. This approach, *Dean Harry S. Jonas*, M.D. said, incorporates many aspects of the School of Medicine's Academic Plan.

Harvard University eventually plans to convert its entire medical curriculum to the New Pathway model. In a letter to Dean Jonas, Harvard Medical School Dean Daniel C. Tosteson said that the teaching facilities at the UMKC School of Medicine are "an excellent example of the type of environment" Harvard would like to create for its new program.

An audience of approximately 400 attended the School of Medicine's seventh annual Year-I Convocation on October 14 at which *Marlene E. B. Haffner*, M.D. was keynote speaker. Dr. Haffner, who is director of the Food and Drug Administration's Office of Health Affairs, Center for Radiological Devices, is the second woman to hold the post of assistant surgeon general of the United States. Her message to the Class of 1990 was to keep pace with the changes that are on the horizon for physicians but, in doing so, not to lose sight of the patient or the patient's feelings.

A group of students from the UMKC School of Medicine experienced a first-hand look at rural medicine recently with a month-long tour of Southeast Missouri. Nine students, three instructors and a visiting physician from China comprised the group. Their purpose was to investigate family practice by leaving the academic setting and the big city to gain a better perspective of what life and health care is about in nonmetropolitan areas. The group started its tour in Cape Girardeau and made other tour stops in towns including Sikeston, Hayti, Kennett, Dexter, Poplar Bluff, Doniphan, Ellington, Pilot Knob, Salem and Rolla.

Dennis Pyszczynski, M.D. received the 1984 Faculty Research Award from the St. Louis Friends of the UMKC School of Medicine. The $2,500 grant went toward a project titled "Computerized Ventilator Monitoring System Development Program." The project involved the purchase of additional computer equipment for the Pulmonary Department's Exercise Physiology Laboratory at Truman Medical Center. With this equipment, the department plans to develop its own respiratory monitoring system that will be capable of monitoring patients from inside as well as from outside the hospital.

Funding from the School of Medicine's Founders Council has provided Truman Medical Center's Pathology Department with a new five-position microscope. The instrument is being used for teaching students and residents, as well as for interdepartmental review of cases that are particularly interesting or unusual.

WASHINGTON UNIVERSITY

Virginia V. Weldon, M.D., deputy vice-chancellor of Washington University School of Medicine, has been named chairman-elect of the assembly of the Association of American Medical Colleges (AAMC).

Her election to the post, announced on October 30 during the annual meeting in Chicago, marks the first time in the AAMC's 108-year history that a woman has been chosen to lead the association. Dr. Weldon will serve as chairman beginning in the fall of 1985.

Virginia V. Weldon, M.D.

Morton F. Arnsdorf, M.D., professor of medicine and chief of cardiology at the University of Chicago's Pritzger School of Medicine, delivered the first Rudolph A. Tuteur Lecture on October 25 at the School of Medicine.

His talk was titled "On the Nature of Academic Medicine: Its Art, Science and Business."

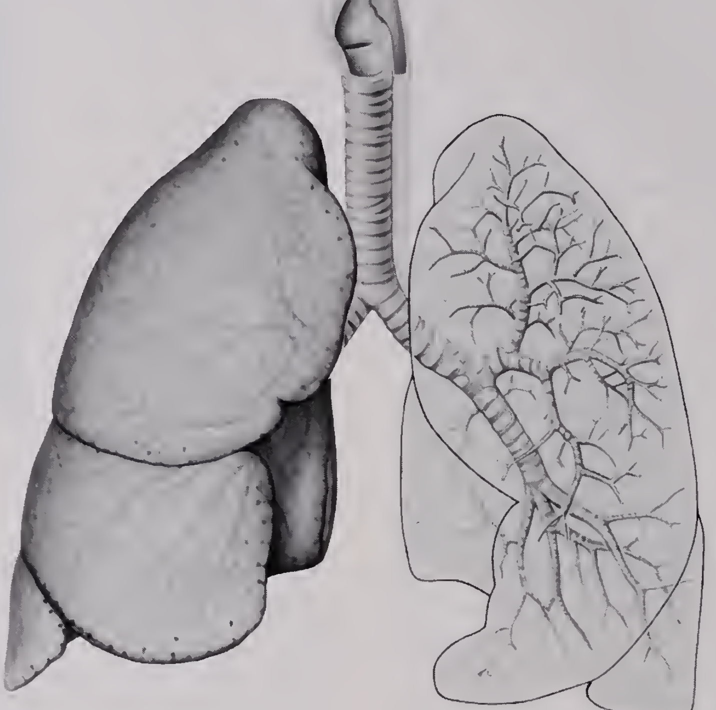
The lectureship is endowed by family, friends and colleagues of the Tuteur family in memory of Rudolph A. Tuteur to promote understanding of problems in caring for the chronically ill. The elder Tuteur suffered from chronic obstructive pulmonary disease. His son, *Peter G. Tuteur*, M.D., is associate professor of medicine at the School of Medicine and a staff physician at Barnes Hospital.

A former professor and co-chairman of the Department of Medicine at the School of Medicine returned to the medical school on October 30 to deliver the second annual Edward Massie Lecture in Cardiovascular Disease.

Sol Sherry, M.D., dean and distinguished professor of medicine at Temple University School of Medicine in New York City, discussed "Washington University and the Development of Thrombolytic Therapy." The lecture was sponsored by the Division of Cardiology to honor *Edward Massie*, M.D., professor emeritus of clinical medicine at Washington University.

Dr. Sherry is considered a pioneer in understanding the thrombolytic system and its use in patients. He was responsible for the first extensive purification of tissue plasminogen activator.

Consider the causative organisms…



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offers effectiveness against the major causes of bacterial bronchitis

H. influenzae, *H. influenzae*, *S. pneumoniae*, *S. pyogenes*
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Brief Summary Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae)*, *Haemophilus influenzae*, and *S pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins), therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics Such colitis may range in severity from mild to life-threatening

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone In moderate to severe cases, management should include sigmoidoscopy appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C difficile* Other causes of colitis should be ruled out

Precautions: *General Precautions* – If an allergic reaction to Ceclor® (cefaclor, Lilly) occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e g , pressor amines, antihistamines, or corticosteroids

Prolonged use of Ceclor may result in the overgrowth of nonsusceptible organisms Careful observation of the patient is essential If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly)

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis

Usage in Pregnancy – Pregnancy Category B – Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceclor® (cefaclor, Lilly) There are, however, no adequate and well-controlled studies in pregnant women Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers – Small amounts of Ceclor have been detected in mother's milk following administration of single 500-mg doses Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively Trace amounts were detected at one hour The effect on nursing infants is not known Caution should be exercised when Ceclor is administered to a nursing woman

Usage in Children – Safety and effectiveness of this product for use in infants less than one month of age have not been established

Adverse Reactions: Adverse effects considered related to therapy with Ceclor are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70)

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment Nausea and vomiting have been reported rarely

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100) Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor Such reactions have been reported more frequently in children than in adults Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients)

Causal Relationship Uncertain – Transitory abnormalities in clinical laboratory test results have been reported Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician

Hepatic – Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic – Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40)

Renal – Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[0617B2R]

Note Ceclor® (cefaclor, Lilly) is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever See prescribing information

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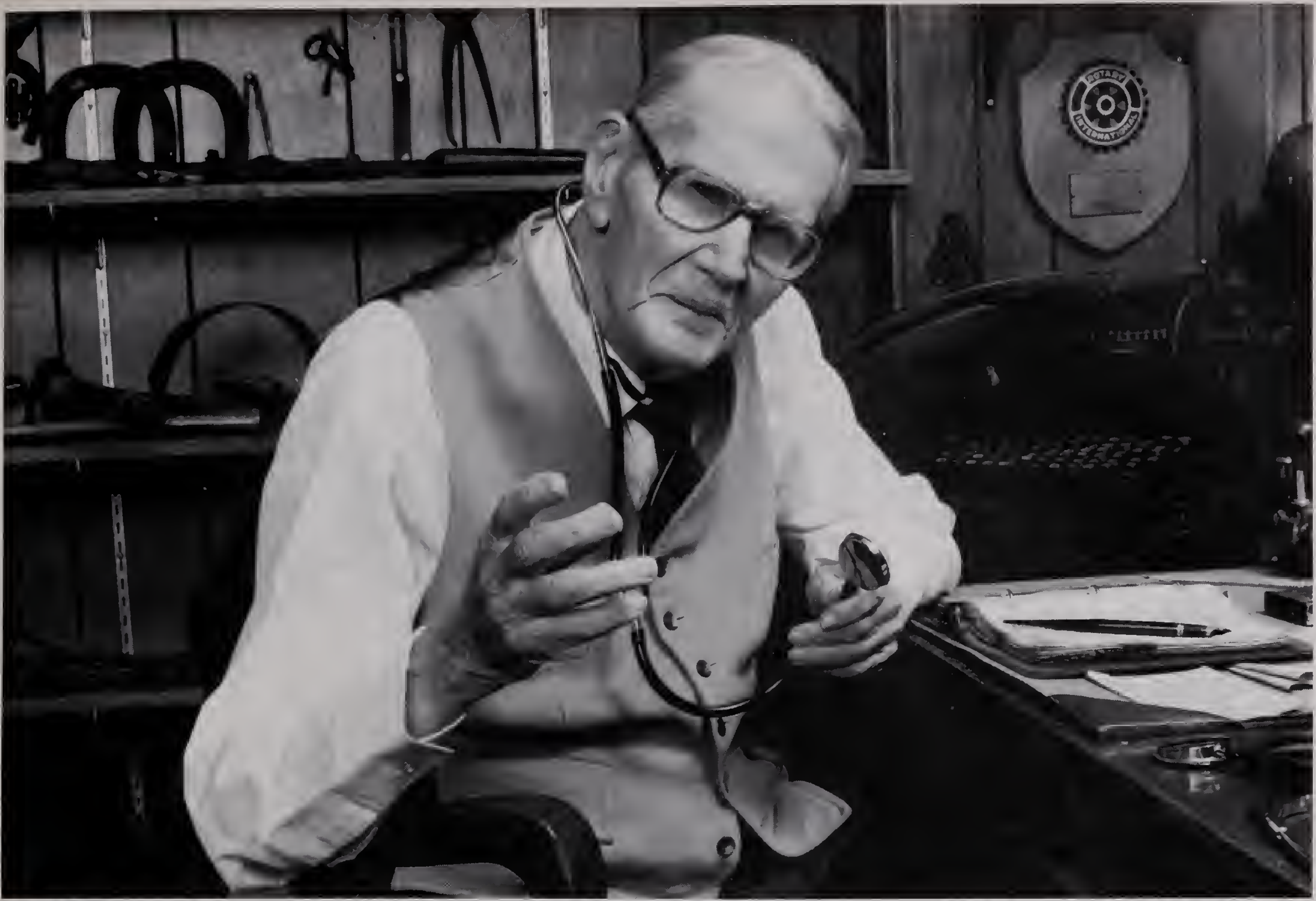

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MSMA Members Receive Physician's Recognition Award

Twenty-nine MSMA members qualified for the MSMA-AMA Physician's Recognition Award in September, 1984.

The award is a voluntary continuing medical education (CME) program designed to improve physician competence and recognize physicians who earn it by completing the educational requirements.

To qualify, each physician must accumulate 150 credit hours of CME within a three-year period. Sixty of the credit hours must be earned in Category I programs.

Names of additional PRA recipients will be published in Missouri Medicine as they are received from the AMA.

David T. Baumann, Fort Leonard Wood
Calvin E. Beck, Kansas City
Selbert G. Chernoff, Lee's Summit
Udaya N. Dash, St. Louis
John R. B. Fischer, Bridgeton
Richard K. Gutknecht, Independence
Thomas P. Hanley, St. Louis
William R. Harring, Kansas City
Thomas S. Helling, Kansas City
Phillip K. Hill, Weston
William H. Huffaker, Chesterfield
Subhash S. Kherdekar, Mount Vernon
Paul G. Koontz, Kansas City
William G. Marietta, Cape Girardeau
John J. O'Hearne, Kansas City
Robert Oertli, St. Louis
Arthur C. Parker, Poplar Bluff
Supote Phipatanakul, Kirkwood
Joseph A. Pinkerton, Kansas City
Dyapa S. Reddy, Chesterfield
William A. Reed, Kansas City
Maria Sadowska, St. Louis
Clyde N. Shealy, Fair Grove
John M. Singleton, Kansas City
James H. Sparul, St. Louis
Christopher Y. Thomas, Kansas City
Porfirio M. Tiongson, St. Louis
Clark C. Watts, Columbia
Donald A. Withrow, St. Louis
James B. Wolfe, Springfield

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Contraindications: Anaphylactoid reactions have occurred in individuals hypersensitive to *Motrin* Tablets or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin, iodides, or other nonsteroidal anti-inflammatory agents

Warnings: Peptic ulceration and GI bleeding, sometimes severe, have been reported. Ulceration, perforation and bleeding may end fatally An association has not been established. Use *Motrin* Tablets under close supervision in patients with a history of upper gastrointestinal tract disease, after consulting ADVERSE REACTIONS. In patients with active peptic ulcer and active rheumatoid arthritis, try nonulcerogenic drugs, such as gold If *Motrin* Tablets are used, observe the patient closely for signs of ulcer perforation or GI bleeding

Chronic studies in rats and monkeys have shown mild renal toxicity with papillary edema and necrosis Renal papillary necrosis has rarely been shown in humans treated with *Motrin* Tablets.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported If these develop, discontinue *Motrin* Tablets and the patient should have an ophthalmologic examination, including central visual fields and color vision testing.

Fluid retention and edema have been associated with *Motrin* Tablets; use with caution in patients with a history of cardiac decompensation or hypertension. In patients with renal impairment, reduced dosage may be necessary Prospective studies of *Motrin* Tablets safety in patients with chronic renal failure have not been done.

Motrin Tablets can inhibit **platelet aggregation** and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and on anticoagulant therapy.

Patients should report signs or symptoms of **gastrointestinal ulceration** or bleeding, skin rash, weight gain, or edema

Patients on prolonged **corticosteroid therapy** should have therapy tapered slowly when *Motrin* Tablets are added

The antipyretic, anti-inflammatory activity of *Motrin* Tablets may mask inflammation and fever.

As with other nonsteroidal anti-inflammatory drugs, borderline elevations of liver tests may occur in up to 15% of patients. These abnormalities may progress, may remain essentially unchanged, or may be transient with continued therapy Meaningful elevations of SGPT or SGOT (AST) occurred in controlled clinical trials in less than 1% of patients. Severe hepatic reactions, including jaundice and cases of fatal hepatitis, have been reported with ibuprofen as with other nonsteroidal anti-inflammatory drugs If liver disease develops or if systemic manifestations occur (e g eosinophilia, rash, etc.), *Motrin* should be discontinued.

Drug interactions. *Aspirin.* used concomitantly may decrease *Motrin* blood levels.

Coumarin. bleeding has been reported in patients taking *Motrin* and coumarin.

Pregnancy and nursing mothers: *Motrin* should not be taken during pregnancy or by nursing mothers

Adverse Reactions: The most frequent type of adverse reaction occurring with *Motrin* is gastrointestinal of which one or more occurred in 4% to 16% of the patients.

Incidence Greater than 1% (but less than 3%)—Probable Causal Relationship

Gastrointestinal: Nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence); **Central Nervous System:** Dizziness,* headache, nervousness; **Dermatologic:** Rash* (including maculopapular type), pruritus, **Special Senses:** Tinnitus; **Metabolic/Endocrine:** Decreased appetite, **Cardiovascular:** Edema, fluid retention (generally responds promptly to drug discontinuation, see PRECAUTIONS).

Incidence less than 1%—Probable Causal Relationship**

Gastrointestinal: Gastric or duodenal ulcer with bleeding and/or perforation, gastrointestinal hemorrhage, melena, gastritis, hepatitis, jaundice, abnormal liver function tests, **Central Nervous System:** Depression, insomnia, confusion, emotional lability, somnolence, aseptic meningitis with fever and coma; **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme, Stevens-Johnson syndrome, alopecia; **Special Senses:** Hearing loss, amblyopia (blurred and/or diminished vision, scotomata, and/or changes in color vision) (see PRECAUTIONS); **Hematologic:** Neutropenia, agranulocytosis, aplastic anemia, hemolytic anemia (sometimes Coombs positive), thrombocytopenia with or without purpura, eosinophilia, decreases in hemoglobin and hematocrit; **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure, palpitations, **Allergic:** Syndrome of abdominal pain, fever, chills, nausea and vomiting; anaphylaxis, bronchospasm (see CONTRAINDICATIONS); **Renal:** Acute renal failure in patients with pre-existing significantly impaired renal function, decreased creatinine clearance, polyuria, azotemia, cystitis, hematuria, **Miscellaneous:** Dry eyes and mouth, gingival ulcer, rhinitis.

Incidence less than 1%—Causal Relationship Unknown**

Gastrointestinal: Pancreatitis; **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities, pseudotumor cerebri; **Dermatologic:** Toxic epidermal necrolysis, photoallergic skin reactions, **Special Senses:** Conjunctivitis, diplopia, optic neuritis, **Hematologic:** Bleeding episodes (e.g., epistaxis, menorrhagia); **Metabolic/Endocrine:** Gynecomastia, hypoglycemic reaction; **Cardiovascular:** Arrhythmias (sinus tachycardia, sinus bradycardia); **Allergic:** Serum sickness, lupus erythematosus syndrome, Henoch-Schonlein vasculitis; **Renal:** Renal papillary necrosis.

*Reactions occurring in 3% to 9% of patients treated with *Motrin*. (Those reactions occurring in less than 3% of the patients are unmarked.)

**Reactions are classified under "*Probable Causal Relationship (PCR)*" if there has been one positive rechallenge or if three or more cases occur which might be causally related Reactions are classified under "*Causal Relationship Unknown*" if seven or more events have been reported but the criteria for PCR have not been met

Overdosage: In cases of acute overdosage, the stomach should be emptied The drug is acidic and excreted in the urine so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d Do not exceed 2400 mg per day Mild to moderate pain: 400 mg every 4 to 6 hours as necessary

Caution: Federal law prohibits dispensing without prescription. MED B-7-S

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Kalamazoo, Michigan 49001

J-4791 August, 1984

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NEWS About CME Events

University of Missouri-Columbia School of Medicine
Office of Continuing Education
M-245 Health Sciences Center, Columbia 65212
(314) 882-2256
Contact: **Weldon D. Webb, M.D., Director**

(1985)	
Feb. 6-8	Fifth National Conference on CAPD (Kansas City)
Mar. 1	Preceptor's Day
Mar. 2-3	Eighth Annual Family Practice Update Session

St. Louis University School of Medicine
1409 S. Grand Blvd., St. Louis 63104
(314) 664-9800, Ext. 167
Contact: **Anita Herbst, Continuing Medical Education**

(1985)	
Jan. 10	Hypertension: A Life-Long Problem (Clayton Inn)

The Edward Mallinckrodt Institute of Radiology — Washington University School of Medicine
510 S. Kingshighway, St. Louis 63110
(314) 362-7100
Contact: **Ronald G. Evens, M.D., Director**

(1985)	
Jan. 14	City-Wide Radiology Conference (St. Louis University)
Feb. 11	City-Wide Radiology Conference on "Digital Radiography"
Mar. 11	City-Wide Radiology Conference on "Interventional Radiology"
Apr. 8	Leroy Sante Lecture (St. Louis University)
May 13	City-Wide Radiology Conference on "MRI"

Freeman Hospital
1102 W. 32nd, Joplin 64801
(417) 623-2801
Contact: **Joy W. Barnett, CME Coordinator**

Jan. 19	Laser Surgery

Retina Research & Development Foundation
4949 Barnes Hospital Plaza
East Pavilion/Suite 17413
St. Louis, MO 63110
Contact: **R. Joseph Olk, M.D.**

Feb. 9-10	Midwinter Vitrectomy Workshop (Breckenridge Frontenac)

> *The continuing medical education accreditation program of the MSMA has full approval by AMA's Council on Medical Education. The institutions and functions listed here qualify for Category I credit for the AMA Physician's Recognition Award. All accredited institutions in Missouri are invited to send this information for listing in* MISSOURI MEDICINE. *Please remember to include name of individual who can be contacted at your institution for additional information about your CME events.*

Washington University
Box 8063, 660 S. Euclid Ave., St. Louis 63110
(314) 454-3853
Contact: **Loretta Giacoletto, Office of CME**

(1985)	
Jan. 6-11	Practical Management of Infectious Diseases (Keystone, Colorado)
Jan. 10-16	Endocrine Aspects of Ovarian Dysfunction Syndromes (Puerto Vallarta, Mexico)
Feb. 7	St. Luke's Clinical Conference (St. Luke's Hospital)
Mar. 4- May 20	Internal Medicine Review (Monday Evenings)
Mar. 9	Industrial Injuries of the Hand
Mar. 18-20	Curable Cancers in Humans
Mar 29	Inflammatory Bowel Disease (St. Louis University)
Apr. 11-12	Care of the Aging Patient
Apr. 25-26	12th Annual Postgraduate Course in OB/GYN
May 2-4	WUMCAA Reunion '85
May 13-14	PNP Update

*** Limited to Physicians and Spouses**

University of Kansas
Office of Continuing Education
Rainbow at Olathe Blvd., Kansas City 66103
(913) 588-4488
Contact: **Jan Johnston, Promoter Coordinator**

(1985)	
Jan. 20-26	Contemporary Issues in Obsterics and Gynecology (Sheraton Hotel, Ixtapa, Mexico)
Feb. 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
Feb. 21-22	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery
June 13-14	A Special Workshop on the Use of the CO_2 Laser in ENT Surgery

Cardinal Glennon Memorial Hospital for Children
1465 S. Grand Blvd., St. Louis 63104
(314) 577-5634
Contact: Albert Chu, M.D.

June 19-21	Topic Reviews in General Pediatrics (Lake of the Ozarks)

University of Missouri-Kansas City School of Medicine — Kansas City Southwest Clinical Society
Continuing Medical Education
2220 Holmes St., Kansas City 64108
(816) 276-1339
Contact: Alta Bingham

(1985) Jan. 26- Feb. 2	Traveling Medical Education Course (Steamboat Springs, Colo.)
Feb. 9-16	Traveling Medical Education Course (Cancun, Mexico)
Feb. 22-23	The Long Weekend* (Alameda Plaza Hotel)
Mar. 14-15	Current Management in Critical Care (Alameda Plaza Hotel)
Mar. 14-23	Traveling Medical Education Course (Maui, Hawaii)
Mar. 16-23	Traveling Medical Education Course (Copper Mountain, Colo.)
Apr. 19-20	The Long Weekend* (Alameda Plaza Hotel)
May 17-18	Emergency Medicine/Missouri Chapter. American College of Emergency Physicians (Hilton Plaza Inn)
May 24-25	Surgical Problems — The Old and The New (Alameda Plaza Hotel)
May 31- June 1	Sports Medicine/Physical Fitness Symposium (Weston Crown Center Hotel)
June 13-15	Facial Surgery Symposium (Weston Crown Center Hotel)
June 27-28	Update In Gynecology (Alameda Plaza Hotel)
July 26-28	Internal Medicine Update, 1985 (Lake of the Ozarks)

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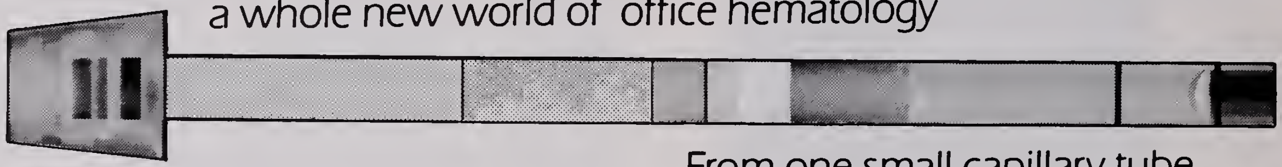
April 11-14, 1985
Kansas City Hyatt Regency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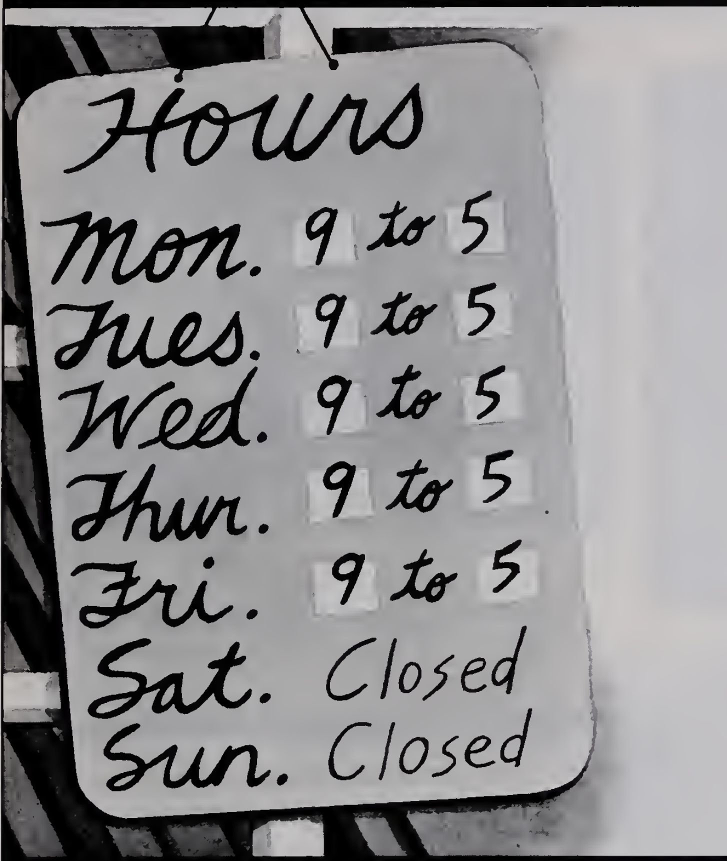

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Introducing Our New MSMA Members

Jeffrey H. Agee, M.D., 724 N. Clay, Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Agee is a native of Endicott, N. Y., received his preliminary education at Georgia Institue of Technology and his M.D. degree at the Medical College of Georgia in 1982. He specializes in radiology.

Arifa Azad, M.D., 10600 Clayton Rd., St. Louis 63131, has become a member of St. Louis Metropolitan Medical Society. Dr. Azad is a native of Kabul, Afghanistan, received his preliminary education at Kabul University and his M.D. degree at Kabul University in 1971. He specializes in obstetrics and gynecology.

Robert Backer, M.D., 104 Chatwood, Crestwood 63126, has become a member of St. Louis Metropolitan Medical Society. Dr. Backer is a native of St. Louis, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at St. Louis University in 1981. He specializes in neurosurgery.

Kenneth J. Barkett, M.D., 1012 N. Main, Sikeston 63801, has become a member of SEMO Medical Society. Dr. Barkett is a native of Cairo, Ill., received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia 1980. He specializes in ophthalmology.

Gregg J. Berdy, M.D., Dept. of Ophthalmology, 3655 Vista, St. Louis 63110, has become a member of St. Louis Metropolitan Medical Society. Dr. Berdy is a native of New York, N. Y., received his preliminary education at Duke University and his M.D. degree at St. Louis University in 1983. He specializes in ophthalmology.

David I. Berland, M.D., 1221 S. Grand, Dept. of Psychiatry, 1221 S. Grand, St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Berland is a native of St. Louis, received his preliminary education at the University of Pennsylvania and his M.D. degree at the University of Missouri-Columbia in 1973. He specializes in psychiatry and child psychiatry.

Athanasios I. Bonoris, M.D., 3312 Russell Blvd., St. Louis 63104, has become a member of St. Louis Metropolitan Medical Society. Dr. Bonoris is a native of Argos, Greece, received his preliminary education at the University of Athens and his M.D. degree at the University of Athens in 1982. He specializes in cardiology.

Robert J. Carney, M.D., 1900 S. National, Suite 2800, Springfield 65804, has become a member of Greene County Medical Society. Dr. Carney is a native of Rolla, received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Missouri-Columbia in 1978. He specializes in internal medicine and cardiology.

Margaret Crumpacker, M.D., 7477 Delmar Blvd., St. Louis 63130, has become a member of St. Louis Metropolitan Medical Society. Dr. Crumpacker is a native of South Bend, Ind., received her preliminary education at the University of Wisconsin and her M.D. degree at the University of Wisconsin in 1962. She specializes in psychiatry.

William F. Cunningham, M.D., 1900 S. National, Suite 3600, North Wing, Springfield 65804, has become a member of Greene County Medical Society. Dr. Cunningham is a native of Boise, Idaho, received his preliminary education at Brigham Young University and his M.D. degree at the University of Utah in 1979. He specializes in oncology.

David F. Davis, III, M.D., 18 S. Kingshighway, St. Louis 63108, has become a member of St. Louis Metropolitan Medical Society. Dr. Davis is a native of San Antonio, Tex., received his preliminary education at Texas Technological University and his M.D. degree at Texas Technological University in 1984. He specializes in anesthesiology.

Norman B. Ely, M.D., 609 Cherry, 403 Professional Building, Springfield 65806, has become a member of Greene County Medical Society. Dr. Ely is a native of Albuquerque, N. M., received his preliminary education at the University of New Mexico and his M.D. degree at the University of New Mexico in 1980. He specializes in radiology.

Christopher R. Erkmann, M.D., 1500 Timberbluff Ct., Chesterfield 63017, has become a member of St. Louis Metropolitan Medical Society. Dr. Erkmann is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1981. He specializes in anesthesiology.

Ted E. Garrett, M.D., 621 S. New Ballas, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Garrett is a native of St. Louis, received his preliminary education at Westminster College and his M.D. degree at Vanderbilt University in 1977. He specializes in cardiothoracic surgery and general surgery.

Rebecca N. Gaughan, M.D., One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Gaughan is a native of Kansas City, received her preliminary education at Creighton University and her M.D. degree at Creighton University in 1982. She specializes in otolaryngology.

William B. Guyol, Jr., M.D., 961 Nancy Carol, St. Louis 63144, has become a member of St. Louis Metropolitan Medical Society. Dr. Guyol is a native of St. Louis, received his preliminary education at the University of Notre Dame and his M.D. degree at St. Louis University in 1982. He specializes in internal medicine.

Mark F. Hoffmann, M.D., 1012 N. Main, Sikeston 63801, has become a member of SEMO Medical Society. Dr. Hoffmann is a native of St. Louis, received his preliminary education at the University of Notre Dame and his M.D. degree at the University of Missouri-Columbia in 1980. He specializes in obstetrics and gynecology.

John H. Kissell, M.D., 5535 Delmar Blvd., St. Louis 63112, has become a member of St. Louis Metropolitan Medical Society. Dr. Kissell is a native of Houston, Tex., received his preliminary education at Georgetown University and his M.D. degree at Harvard University Medical School in 1971. He specializes in internal medicine.

Scott A. Lerner, M.D., Suite 510, 4320 Wornall Rd., Kansas City 64111, has become a member of Jackson County Medical Society. Dr. Lerner is a native of Kansas City, received his preliminary education at Indiana University and his M.D. degree at Kansas University in 1973. He specializes in internal medicine and pulmonary diseases.

Mark A. Lichtenfeld, M.D., 8543 Bryan, St. Louis 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Lichtenfeld is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Texas-Medical Branch in 1983. He specializes in emergency medicine.

Craig S. Lofgreen, M.D., 2084 Independence Center, Independence 64057, has become a member of Jackson County Medical Society. Dr. Lofgreen is a native of Norton, Kan., received his preliminary education at Fort Hays State University and his M.D. degree at the University of Kansas in 1978. He specializes in family practice.

Joseph A. Lombardo, M.D., 11636 Administration Dr., Creve Coeur 63146, has become a member of St. Louis Metropolitan Medical Society. Dr. Lombardo is a native of Cleveland, Ohio, received his preliminary education at Ohio University and his M.D. degree at St. Louis University in 1977. He specializes in pathology.

Douglas J. Long, M.D., One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Long is a native of Alma, Neb., received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1983. He specializes in general surgery.

Eugene J. McCabe, M.D., 1005 Fairgrounds, St. Charles 63301, has become a member of St. Louis Metropolitan Medical Society. Dr. McCabe is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1978. He specializes in ophthalmology.

John J. Oro, M.D., N522 Medical Center, One Hospital Dr., Columbia 65212, has become a member of Boone County Medical Society. Dr. Oro is a native of Lerida, Spain, received his preliminary education at the University of Houston and his M.D. degree at the University of Texas in 1978. He specializes in neurosurgery.

David E. Oxford, M.D., 3201 Lynnwood Dr., Columbia 65201, has become a member of Boone County Medical Society. Dr. Oxford is a native of Ft. Leonard Wood, received his preliminary education at Southwestern State College and his M.D. degree at the University of Chicago in 1978. He specializes in general surgery.

John F. Patterson, M.D., 800 Bucks Run, Columbia 65201, has become a member of Boone County Medical Society. Dr. Patterson is a native of Willow Springs, received his preliminary education at the University of Missouri-Columbia and his M.D. degree at the University of Missouri-Columbia in 1965. He specializes in psychiatry.

James K. Ritterbusch, M.D., 1115-A Ralph Terr., Richmond Heights 63117, has become a member of St. Louis Metropolitan Medical Society. Dr. Ritterbusch is a native of Fulton, received his preliminary education at Westminster College and his M.D. degree at St. Louis University in 1981. He specializes in orthopedic surgery.

Scott R. Sale, M.D., 777 S. New Ballas Rd., St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Sale is a native of St. Louis, received his preliminary education at Williams College and his M.D. degree at St. Louis University in 1976. He specializes in internal medicine, allergy and immunology.

Rick Scacewater, M.D., 2700 McClelland, Building B, Suite 216, Joplin 64801, has become a member of Jasper County Medical Society. Dr. Scacewater is a native of Joplin, received his preliminary education at the University of Arkansas and his M.D. degree at Tufts Medical School in 1979. He specializes in pulmonary diseases.

Robert Schlichtig, M.D., 6320 Northwood, Clayton 63105, has become a member of St. Louis Metropolitan Medical Society. Dr. Schlichtig is a native of Rockville Center, N. Y., received his preliminary education at the University of Rochester and his M.D. degree at St. Louis University in 1979. He specializes in internal medicine and critical care medicine.

Duane Willard Sherrod, M.D., 3315 McIntosh Circle Dr., Joplin 64801, has become a member of Jasper County Medical Society. Dr. Sherrod is a native of Benkelman, Neb., received his preliminary education at Kansas State University and his M.D. degree at the College of Medicine and Dentistry of New Jersey in 1978. He specializes in plastic surgery.

Kaaren C. Sloan, M.D., NW514 University of Missouri Health Sciences Center, Columbia 65112, has become a member of Boone County Medical Society. Dr. Sloan is a native of Olathe, Kan., received her preliminary education at the University of Missouri-Columbia and her M.D. degree at the University of Missouri-Columbia in 1976. She specializes in family practice.

Daniel B. Smith, M.D., 241 W. Adams, Kirkwood 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Smith is a native of Decatur, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1982. He specializes in family practice.

Michael J. Sterling, M.D., 344 Halcyon Dr., Glendale 63122, has become a member of St. Louis Metropolitan Medical Society. Dr. Sterling is a native of New York, N. Y., received his preliminary education at Lehigh University and his M.D. degree at St. Louis University in 1980. He specializes in internal medicine and critical care.

Robert A. Strickland, M.D., 303 Medical Tower, Springfield 65802, has become a member of Greene County Medical Society. Dr. Strickland is a native of Madison, Wis., received his preliminary education at the University of Missouri-Kansas City and his M.D. degree at the University of Kansas in 1977. He specializes in anesthesiology.

Kerry K. Swindle, M.D., 615 S. New Ballas, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Swindle is a native of Sidney, Neb., received her preliminary education at Kentucky Wesleyan University and her M.D. degree at St. Louis University in 1983. She specializes in family practice.

Jeffrey L. Thomasson, M.D., 8662 Delmar, St. Louis 63124, has become a member of St. Louis Metropolitan Medical Society. Dr. Thomasson is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at Washington University in 1982. He specializes in diagnostic radiology.

Kenneth B. Trimmer, D.O., 2200 Westport Plaza Dr., Suite 212, St. Louis 63141, has become a member of St. Louis Metropolitan Medical Society. Dr. Trimmer is a native of San Antonio, Tex., received his preliminary education at the Stephen F. Austin State University and his M.D.

degree at Texas College of Osteopathic Medicine in 1979.

David S. White, M.D., 2007 Crestridge, Columbia 65201, has become a member of Boone County Medical Society. Dr. White is a native of St. Louis, received his preliminary education at Antioch College and his M.D. degree at Washington University in 1978. He specializes in family practice.

Harry H. White, M.D., 203 W. Broadway, Columbia 65201, has become a member of Boone County Medical Society. Dr. White is a native of Batesville, Ark., received his preliminary education at Kansas University and his M.D. degree at the University of Kansas in 1958. He specializes in neurology.

Frederick I. Volini, M.D., St. Mary's Health Center, 610 W. Elm, Jefferson City 65101, has become a member of Cole County Medical Society. Dr. Volini is a native of Chicago, Ill., received his preliminary education at Loyola University and his M.D. degree at Loyola University in 1952. He specializes in pathology.

New Student Members

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LeRoy J. Dierker, M.D., 110 N. Euclid, Suite 710, St. Louis 63108; graduate of St. Louis University, 1942; member of St. Louis Metropolitan Medical Society; aged 68; died Sept. 30, 1984.

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in Brief

A summary of AMA, medical & health news

American Medical Association/535 North Dearborn Street/Chicago, Illinois 60610/Phone (312) 527-1500/TWX 910-221-0300

DIRECT ADVERTISING of prescription drugs to the public was opposed by two thirds of the respondents in a public opinion poll conducted by the AMA. When the question was addressed to physicians, 84% expressed opposition and 81% — members and nonmembers alike — said the AMA should take a highly visible public stand on direct advertising proposals. The AMA House of Delegates has taken a position against direct advertising of prescription drugs.

BETWEEN 1970 and the end of 1982, the number of women physicians increased 152.9% — from 25,401 to 64,247 — according to the latest figures from the AMA Physician Masterfile. In the two-year period between 1980 and 1982, there was an 18.4% increase. The largest number of women physicians practiced internal medicine (10,832), pediatrics (10,192), and psychiatry (6,454).

COST OF MEDICAL CARE remains the Number One problem facing medicine, physicians said in a poll conducted by the AMA Department of Survey and Opinion Research. Half of the physicians queried this year said cost was their greatest concern, down slightly from a peak of 58% in 1982. Concern about government regulation, which reached its lowest point in 1982, increased five points in 1983 and an additional four points in 1984. A total of 19% of the physicians said government regulation was the main problem facing medicine.

EIGHT STATE medical societies will have additional delegates at the 1984 Interim Meeting as a result of an AMA bylaws amendment. Six states — Iowa, Minnesota, Nebraska, North Dakota, Ohio and Wisconsin — will get one additional delegate each. Illinois and Oklahoma are entitled to two additional delegates each. Under the amendment, a constituent association is entitled to an additional delegate and alternate if 75% or more of its members are also AMA members. An association is entitled to two additional delegates and alternates if all of its members are also AMA members.

"AUDIO MEDICAL NEWS" is increasing its business and practice management information, emphasizing indepth feature stories, and expanding news coverage from 30 minutes to 60 minutes. Every two weeks, the AMA audiocassette service condenses socioeconomic news from more than 70 medical and nonmedical publications. The subscription rate is $125 for 24 issues. To subscribe, call the AMA toll-free at (800) 621-8335. Illinois residents may call collect at (312) 645-4987.

TWO NEW COURSES have been added to the AMA's Video Clinic Program, bringing the total number of courses to 36. Added to the continuing medical education videotapes are "Clinical Applications of Diagnostic Imaging" and "Computers in Clinical Practice: An Introduction." Each course includes a color videotape, study guide, self-assessment test, and forms for Category 1 CME credit. The courses are available for rent or purchase. For more information, call toll-free (800) 621-8335. Illinois residents may call collect at (312) 645-4987.

A COMMITTEE on Young Physicians was appointed by the AMA Board of Trustees to identify the concerns of young physicians and make recommendations for encouraging participation in organized medicine.

MEDICAL SOCIETY involvement in health care coalitions increased this year compared with last year and the year before. An AMA Department of Health Care Coalitions survey found that more than half (31 out of 54) responding state medical societies said they were involved in a coalition. Of the 279 responding county societies, 133 said they were involved. The total number reporting involvement in 1984 (164) is a 45% increase over 1983 (113) and a 169% increase over 1982. For a guide publication on "Beginning and Building a Health Care Coalition," contact the Department of Health Care Coalitions, AMA Headquarters, (312) 645-4716.

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References: 1. Kales J *et al*: *Clin Pharmacol Ther 12*:691-697, Jul-Aug 1971. **2.** Kales A *et al*: *Clin Pharmacol Ther 18*:356-363, Sep 1975. **3.** Kales A *et al*: *Clin Pharmacol Ther 19*:576-583, May 1976. **4.** Kales A *et al*: *Clin Pharmacol Ther 32*:781-788, Dec 1982. **5.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **6.** Kales A, Kales JD: *J Clin Pharmacol 3*:140-150, Apr 1983. **7.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*:355-361, Mar 1977. **8.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **9.** Amrein R *et al*: *Drugs Exp Clin Res 9*(1):85-99, 1983. **10.** Monti JM: *Methods Find Exp Clin Pharmacol 3*:303-326, May 1981. **11.** Greenblatt DJ *et al*: *Sleep 5*(Suppl 1):S18-S27, 1982. **12.** Kales A *et al*: *Pharmacology 26*:121-137, 1983.

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